THE NATURE ENCYCLOPEDIA

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EDITED BY
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FOREWORD

To understand nature is to gain one of the greatest resources of life.—JOHN BURROUGHS.

THE better one understands nature, the better he understands himself, for we see our lives reflected in the lives of the plants and animals about us, and this helps us to crystallize the philosophy of life which we as thinking persons frame or adopt for ourselves.

No one who is interested in nature is ever bored by having nothing to do. No naturalist ever has to kill time. He always has a wholesome interest and a profitable activity to engross his energies and occupy his time. No matter where he is, whether in city or country, whether it be a bumble-bee visiting a roadside flower or a mud-dauber wasp provisioning its nest with spiders, or the common House Sparrow picking up its living in our crowded cities,—there is always something at hand to absorb his attention.

In anyone's dooryard there is more than he can master in a lifetime.

Everyone will welcome such helps as these contained in "Nature's Secrets," each section of which has been written by a specialist in that particular field. And one of the most helpful features of these books is the numerous illustrations. Oftentimes a good photograph or drawing is clearer and accomplishes its purpose better than pages of printed text. John Burroughs said that the thing which had most to do with making him a naturalist was his finding Audubon's bird books in the library of the West Point Military

are living things with life-histories as remarkable as those of the animals. In the sections on Wild Flowers, on Ferns, and on Trees, you will find out many things you want to know about these members of the vegetable world.

When a plant or an animal attracts our attention, the first thing we want to know is its name,—so this book has been planned to help us in identifying the trees, the birds, etc., but they have not been prepared to give encouragement to the idea that the name of a plant or animal is the end of our pursuit. On the other hand, it is to be hoped that the name will serve only as an introduction to the life-history and behavior of the plant or animal.

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KNOWING THE BIRDS

The bird is little more than a drift of the air brought into form by plumes; the air is in all its quills, it breathes through its whole frame and flesh, and glows with air in its flying, like a blown flame; it rests upon the air, subdues it, surpasses it, outraces it—is the air, conscious of itself, conquering itself, ruling itself.

Also, into the throat of the bird is given the voice of the air. All that in the wind itself is weak, useless in sweetness, is knit together in its song. As we may imagine the wild form of the cloud closed into the perfect form of the bird's wings, so the wild voice of the cloud into its ordered and commanded voice; unwearied, rippling through the clear heaven in its gladness, interpreting all intense passion through the soft spring nights, bursting into acclaim and rapture of choir at daybreak, or lisping and twittering among the boughs and hedges through heat of the day, like little winds that only make the cowslip bells shake, and ruffle the petals of the wild rose.

Also, upon the plumes of the bird are put the colors of the air; on these the gold of the cloud, that cannot be gathered by any covetousness; the rubies of the clouds, the vermilion of the cloud-bar, and the flame of the cloud-crest, and the snow of the cloud, and its shadow, and the melted blue of the deep wells of the sky——all these, seized by the creating spirit, and woven into films and threads of plume; with wave on wave following and fading along breast, and throat, and opened wings, infinite as the dividing of the foam and the sifting of the sea sand,—even the white down of the cloud seeming to flutter up between the stronger plumes, seen, but too soft for touch.—JOHN RUSKIN.

OUTDOOR BIRD STUDY

By EDWARD HOWE FORBUSH

THE beginning of interest in bird study is gradual in some cases. In others, especially in the young, it is almost instantly awakened by the unexpected sight of some beautiful bird, or even by a book with colored plates.

All beginners have before them in this study a source of unimagined enjoyment, wonder, and delight. Bradford Torrey, whose interest in birds came with mature years, once said that when a man began to be ornithologically inclined, it was very much as if all the birds had just been created, or at least as if they had just been let out of the Ark. "Like the Lord's mercies," he said, "they were new every morning and fresh every evening." John Burroughs asserts that "if you take the first step in ornithology you are ticketed for the whole voyage." This is true of enthusiastic and industrious beginners, some of whom may become ornithologists in the fullness of time, but these hints for outdoor bird study were not written for experienced ornithologists, who do not need them, but for such fathers and sons who, having taken the first step, find pleasurable recreation in spending a part of their leisure time in the observation and study of living birds in the field. The first step in this study is to learn how, when, and where to find birds.

How to Find Birds

There are birds everywhere, but not always. In winter there are practically no birds above the timber line on high mountain peaks or near the north pole. Dr. Donald B. MacMillan, the Arctic explorer,

tells me that the Raven is almost the only bird that commonly winters at Etah, the northernmost Eskimo settlement in Greenland. During periods of migration, and in the depth of winter, there are always times and places in the temperate zone where there are few, if any, birds. In the breeding season birds may be found, even in the desert, but they prefer some localities to others, and are most numerous in those that suit them best.

Where to Look

The bird student soon finds that some localities are better supplied with bird life than others. Many species, while migrating, follow or visit such coasts or river valleys as lie along or across their natural lines of migration. City dwellers may find many birds in city parks during migrations. Apparently there is something about the lights of a large city, especially on misty nights, that attracts birds when migrating. If a city park with trees, shrubbery, and water be visited early each morning in spring and autumn many species may be noted. Birds there, being protected and seeing people continually, are unsuspicious, and may be readily approached. Mr. Horace W. Wright records 120 species in the Boston Public Garden, and Dr. and Mrs. E. W. Vietor have noted 162 species in Prospect Park, Brooklyn, New York. Water birds may be found usually in spring and fall in the ponds of large park systems. In such places these birds, being less shy than elsewhere, may be watched and studied.

Birds require food, water, shelter, nesting places, and protection from their enemies. In localities furnishing all these essentials birds always may be found in their seasons. Water always attracts birds. Therefore the bird watcher seeks the neighborhood of lakes or streams. A broad river valley, with fresh-water meadows, containing small, marshy ponds if dotted with trees and bordered by farming lands, orchards, and wooded hills, should be an ideal place for birds.

When migrating they appear to stop by preference where there is an abundance of suitable food with which they may replenish the waste of tissues worn by flight. At such times birds that have found food attract by their calls others flying by or overhead; these also are heard or seen by others still, and so they come from far and near. To find a good place for migrating warblers in fall or spring, look for plant lice on the birches in some sheltered locality,—an old neglected pasture overgrown by young birches is an excellent place. Where these insects are numerous it is impossible to pass among the trees without collecting numbers of the little green creatures upon your clothing. Often I have found many migrating warblers in such places, when elsewhere in the woods there

were very few to be seen. Sparrows, blackbirds, orioles and other birds of the orchards, swamps, and fields are attracted to the woods by these plant lice.

In early spring you may watch the birds when they are feeding on the tiny young tent caterpillars or other leaf-eating larvæ. Both species of Cuckoo, the Vireos, Orioles, Chipping Sparrows, Goldfinches, and several Warblers come to the caterpillars' webs either to get food or to procure web to use in the construction of their nests. In May and June an old neglected orchard is a good hunting ground. The apple-tree has countless insect enemies, and birds seek them in a neglected orchard where the trees are neither scraped, pruned nor sprayed. To see the birds that come to the orchard, one should find a few trees attacked by canker-worms or other inch-worms, then sit down quietly, and watch the birds that come to feed on them. In this way one may see, in an hour or two, nearly all the birds of a locality, for most birds feed on these insects and carry them to their young. In July and August birds may be found in swamps where berries grow. They fly to the wild cherry trees in August and September. Wherever we go we shall find some birds, but if one is in search of a particular species, he may not find it unless he knows where to look.

Birds are much influenced by the character of their food in choosing their nesting sites. Our northern Yellow-Throat commonly prefers to live near the low, wet border of some running stream, while the Chestnut-sided Warbler is quite as likely to be found anywhere in sprout land, shrubbery, or by the roadside. The Pine Warbler prefers pitch pines, but the Black-Throated Green Warbler is found more among white pines, where the Crows and Jays breed. The Prairie Warbler usually is seen on hot or dry, sandy or gravelly lands, among low shrubbery or scattering trees. The Redstart seems to like a coppice along a brook, while the Oven-Bird may be found quite generally distributed among deciduous woods. Scarlet Tanagers feed largely on insects infesting white oaks, and, together with Rose-Breasted Grosbeaks, usually may be found in or near large white oaks, but the Grosbeaks are not at all confined to the oaks, and usually breed along running streams, in localities frequented by Redstarts. Both Tanagers and Grosbeaks often are common in mixed oak and chestnut woods.

Different species of Sparrows also seek diverse localities. The Indigo Buntings live much among the new sprout growths, where woods recently have been cut off, or in bushy hillside pastures. In the fall they go often to cornfields and gardens. The Towhees, or Chewinks, usually inhabit, with the Thrashers, a slightly larger growth. Grasshopper Sparrows, Vesper Sparrows and Field Sparrows are largely birds of the open upland

fields and pastures, while Henslow's Sparrow seeks small patches of low, wet grassland, or large meadows. The Song Sparrow nests along the shores of rivers and ponds, near swamps or springs, or on the banks of brooks or ditches, while the Swamp Sparrow seems to prefer bushy swamps bordering on rivers or ponds, and is seen often near the haunts of Bitterns, Herons, and Rails, which frequent marshes, meadows, and low grassy shores.

When to Look

Early mornings and late afternoons are the best times for observation, partly because most birds are then active and vociferous, and partly because there often is little wind movement then. The least motion of a bird is noticed when the branches and leaves are still, but when the wind blows, birds are more likely to be overlooked; also they are wilder on windy days, when they can spread their wings and be borne away with little effort. Cool days, with strong northwest winds, are unfavorable for bird study. Warm, still days are best. Small land birds usually seek shelter during heavy rains, but are active during light, warm showers.

The Spring Migration

Beginners in bird study usually choose the spring as the best time for making the acquaintance of the birds; but it is well to begin early in the year, when birds are few, and learn to recognize each species as it comes. Gulls, Wild Ducks, and Geese begin to go up the rivers in March as soon as the ice breaks up, and Mergansers seek open places on the lakes. In March and early April we may find birds on warm days or in sheltered places.

A partly wooded river valley will attract birds in April, when the nights and many of the days are cold. Insects fly on warm days very early in April, in the sunny reaches of such a river. In such spots the Rusty Blackbird appears. Pine Warblers, Yellow Palm Warblers, and Ruby-crowned Kinglets may be found near the water catching flying insects after the manner of Fly-catchers. On such rivers Herons and Bitterns sometimes may be seen very early. The early Sparrows feed in April on the sheltered sides of wooded hills, in bushy lands, or on sunny slopes of adjoining fields or pastures. In cold, windy weather birds always prefer the sheltered spots where there is food. By bearing this in mind you may find Flickers, Meadowlarks, Fox Sparrows, Grackles, Blackbirds, Cowbirds, Robins, and Bluebirds in March.

It is well to remember that the old males usually come first, and the females and young birds later.

EGGS OF AMERICAN BIRDS

Plate I

1. CEDAR WAXWING
2. RED-EYED VIREO
3. WHITE-EYED VIREO
4. WARBLING VIREO
5. PHAINOPEPLA
6. BLUE-HEADED VIREO
7. BELLS VIREO
8. BLACK AND WHITE WARBLER
9. PROTHONOTARY WARBLER
10. WORM-EATING WARBLER
11. BLUE-WINGED WARBLER
12. ORANGE-CROWNED· WARBLER
13. PARULA WARBLER
14. MAGNOLIA WARBLER
15. YELLOW WARBLER
16. WATER RUSH
17. YELLOW-THROATED WARBLER
18. PRAIRIE WARBLER
19. MARYLAND YELLOW THROAT
20. OVEN BIRD
21. YELLOW-BREASTED CHAT
22. CHESTNUT-SIDED WARBLER
23. HOODED WARBLER
24. REDSTART
25. PIPIT

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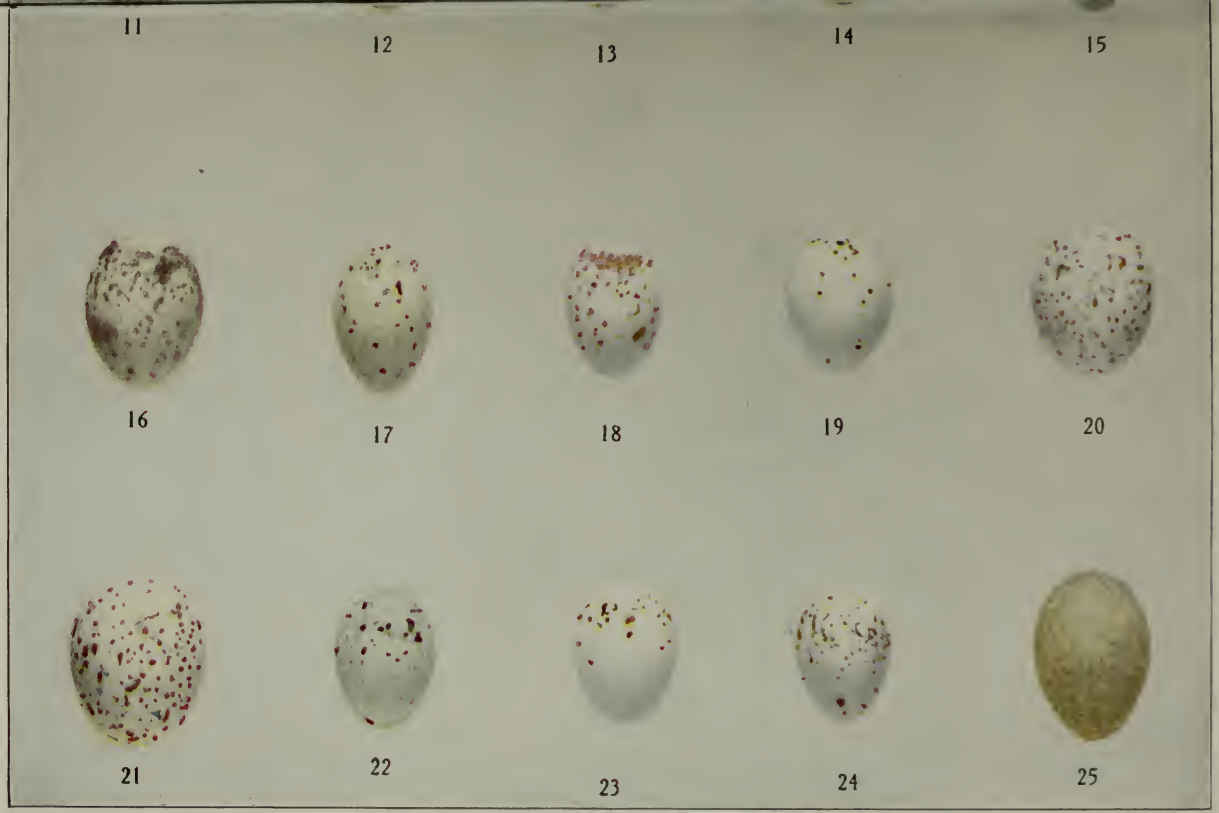


EGGS OF AMERICAN BIRDS (PLATE I)

The Nesting Time

The species of birds to be found in the nesting season at a given place depend largely on the temperature of the locality. "The southward distribution," says Dr. C. Hart Merriam, "is governed by the mean temperature of a brief period during the hottest part of the year." The temperature at this time depends largely on four factors—the latitude, the altitude, the amount of moisture, and the character of the forests. Latitude and altitude have the same effect. Other conditions being equal, the mean temperature lowers as we go higher up or farther north. Dr. Merriam has been able, after long study and as the result of many exploring expeditions, to divide North America into boreal, austral, and tropical "regions." Then he has divided these regions into life zones—the boreal into the Arctic, Hudsonian, and Canadian zones, and the austral into the transition, upper austral, and lower austral zones. The zones of the austral region are again divided. The eastern sub-division of the transition zone is called the Alleghanian faunal area, and the eastern division of the upper austral zone, the Carolinian faunal area. These terms are now generally employed in discussing the distribution of birds. Each region, zone, and area has animals and plants which are peculiar to it, or which thrive best within its limits.

Changes caused by woodcutting and farming bring about changes in the bird life of a region. The draining of a great swamp may drive out species that previously bred there, and their places may then be taken by others. The draining of a marsh or the cutting of a large tract of timber may have a similar effect. The cutting away of the spruce forest may drive out some Canadian Warblers, and at the same time may bring in White-throated Sparrows and Towhees, which breed in the "slash" and sprout growth. The foregoing considerations may indicate that while a study of the faunal areas and breeding zones is useful to determine where certain species may be nesting, nevertheless breeding birds may be sought and sometimes found quite outside of the areas where one would expect to find them. Therefore every locality should be searched during the nesting season.

July is one of the most interesting months in the bird calendar, for then there are many young birds about, and some of the birds which have reared their young begin to slip away toward the south, and shore birds begin to come from the north.

The Autumnal Migration

In August many land birds are inactive, shy, and retiring because of their molt. Many others are then leaving for the south, and many

which breed to the northward have not yet reached us, but shore birds and a few ducks are then migrating southward, and some shore birds are visiting the shoal spots of lakes and rivers, where the water is low. These birds may be studied to advantage in August and early September. In August, September, and through October, Warblers, Thrushes, Sparrows and other small land birds arrive from the north. They are followed by birds of prey. Water birds also are continually passing, so that from August until the ponds and rivers freeze, the vast and changing concourse moves on. Look for land birds in the fall, on the fair, warm days, or "weather-breeders," just before storms. In clear nights they may be heard passing overhead. They are then fleeing from the "wrath to come." Easterly storms now bring wading and swimming birds.

Thrushes may be found in sheltered swamps and in woods where late maturing berries grow. Birch plant lice sometimes furnish food for Warblers, Blackbirds, and Sparrows in autumn until heavy frosts come.

Sparrows now depend mainly on weed seeds, and may be found in sheltered, weedy cornfields and gardens, along roadsides, or in bushes on sunny hillsides where they can find shelter from strong winds. Weedy places are frequented by Bob-Whites also. The Ruffed Grouse or Partridge now seeks wild-apple trees, and feeds also upon barberries or wild grapes.

There are associations of birds in spring, autumn, and winter that the watcher should examine and study carefully. Red-winged or Rusty Blackbirds, Starlings, Cowbirds, or even Meadow-larks may mix with a flock of Grackles or with each other. Flocks of common Warblers or Sparrows should be looked over carefully, as there may be some rare species among them. Never neglect the notes of the Black-capped Chickadee in the seasons of migration. Then and also in winter other birds may be with or near the Chickadees. All companies of Chickadees should be examined in winter to see if there are any Brown-capped Acadian, or Labrador Chickadees with them. Flocks of Slate-colored Juncos may contain one or more of the rarer western forms. In winter Goldfinches, Redpolls and Siskins sometimes accompany each other in feeding, and even flock together.

Winter Birds

Birds may be found in sheltered places all through the winter. The Snow Bunting, however, habitually seeks open, grassy fields, far from all cover. Many birds find winter shelter in pine thickets, or roost in cedar swamps. A farm-yard with a dense growth of coniferous trees close at hand, with thickets or bushy roadsides nearby, should be good hunting ground. In winter birds often seek a thicket in some valley or ravine

along a stream in preference to high open woods. A long thicket at the foot of a southern slope of a wooded hill next to a meadow makes a good winter refuge. Sheltered, tangled patches of goldenrod and other weeds, old gardens, sheltered low pastures overgrown with brushes, alders, and birches, and all places where people feed birds should be examined in winter. One who knows the natural food of winter birds and where to find it has a great advantage. For example, Crossbills frequent larch, pitch pine, spruce and other coniferous trees when these trees bear seed. Goldfinches and Redpolls feed on the seed of the common birch. Many birds feed largely on berries produced by shrubs, vines, or trees that retain their fruit in winter.

Hawks and Owls

Great Horned Owls may be found where Hares or Rabbits are abundant, or about Crow roosts. Crows will often tell you where a Great Owl is hiding. At such times the Owl may be seen, if the observer can approach very skillfully under cover, moving only while the assembled Crows caw, and stopping as they cease. Horned Owls, Snowy Owls, and Barred Owls are most often seen in winter. These birds may be observed at times in sparsely wooded country, in open fields, or rarely, in villages. The Snowy Owl is most commonly seen along the coast or in open fields or pastures.

Birds of prey return year after year to the same spot to nest. Having once found a nesting place of Eagles, Hawks, or Owls, you may look for them with confidence year after year on the same cliff or tree, or in the same patch of woodland. The Horned Owl nests in February, or early March, usually in an old Hawk's nest, or in a hollow tree near a swamp; often the nest is not hard to find. The Barred Owl nests in March and April. Red-shouldered Hawks and Red-tails nest in April, and most Hawks build their nests before the leaves are fully out. Groves of tall white pines are favorite nesting places for Hawks. Hawks rarely if ever use dead leaves in nest building, although some use a few green leaves, so the numerous nests seen filled with dead leaves may be attributed to Squirrels. Sometimes, however, a Hawk or an Owl will build upon the foundation of an old Squirrel's nest or a Crow's nest. Some observing farmers can point out to inquirers a locality where Hawks nest. Often the nest is not far from the edge of the woods, and an observer watching from a distant hillside may see the bird fly directly to it. Usually with a good glass one can distinguish a newly occupied nest by its fresh appearance and bits of fluffy, light-colored down clinging somewhere about its edges. Some Hawks and Owls sit very closely, and can hardly be driven from the nest by pounding on the tree. Others leave at the first alarm.

The Long-eared Owl commonly is a close sitter. When one has discovered an occupied nest, the chances of watching the occupant from a blind depend on conditions, but while the young are growing the parents are continually going and coming. At such times Owls may be seen on the afternoons of cloudy or stormy days.

In severe winter weather Screech Owls sometimes enter barns, where they kill mice or doves. They nest in April, often in an old, hollow orchard tree. You may sometimes find a Screech Owl sitting on a limb in daylight or at dusk. If the Jays or the smaller birds find it, they will tell you where to look. Jays seem to delight in mobbing a Screech Owl, and telling everybody all about it.

The best time to observe the Hawks in flight is in September, when they are on their southward migration. A great flight usually goes over near the middle of the month; then one must watch the sky.

Bird Ventriloquists

The bird seeker must learn to notice every sound and movement in the woods and fields. He must try to follow every strange note to its source. The expert usually hears a bird before he sees it. Some birds are ventriloquists; when the bird is hidden by the leaves, the song seems to come first from one tree and then from another. For this reason the Scarlet Tanager may sometimes be found by going around the place from which the sound of its voice seems to come, or by passing by it, and then returning to it.

Many birds have the power of singing so softly that they seem to be far away when really just at hand. The Catbird does this quite commonly, and many other species occasionally sing their full songs in the fall as in the spring, except that they are audible only a few yards away. In mild autumns, or on warm days, some birds sometimes sing almost as well as in the spring. To find birds one must cultivate the senses of sight and hearing to the utmost.

How to Identify Birds

Naturally, he who begins to study birds, having found one new to him, desires first to know its name and to be able to recognize it at sight. This is the A B C of bird study—the mere beginning—but nevertheless important.

Bird Names

Whoever travels much will find that the names by which certain birds are known to the people change as he passes from place to place. The

Flicker has more than forty common names in different localities. Some of the shore birds are known by one name on one side of a sound or river, and by another on the opposite shore. Bird names may change as one goes from one township to another. Certain individuals in a town may have one name for a bird, while other townsmen know it by a different name. Uniformity of names is so obviously a practical convenience that ornithologists try to stabilize and simplify the study by giving to each species a fixed cognomen derived from the Latin or Greek, by which it may be known to all ornithologists in any country. Also in the United States ornithologists have adopted a common name for each American bird, by which both ornithologists and the people generally may know it in its native country. The American Ornithologists' Union has established rules of nomenclature for the purpose of fixing the technical names of birds, and these rules have proved so efficacious that they have been largely adopted by zoölogists everywhere. If these tenets be followed faithfully each species eventually will have a fixed name by which it will be known everywhere. Unfortunately, synonyms have multiplied until they have become the despair of the beginner, who prefers, instead, such vernacular names as Robin and Bluebird, which have become stable and widely used and recognized. The American Ornithologists' Union has turned its attention, also, to stabilizing the common names of birds, and both common and technical names for each species are published in the Check List of the Union, which is the recognized authority for names of North American species; but even now changes not infrequently occur. Fixity in the names of species might have been reached before now, as it is some years since a new species of bird has been observed in North America, but an increased acquaintance with the classification of the birds of the world, also with the early literature of ornithology, and the names in use in other departments of zoölogy, have necessitated many changes in order to conform with the rules. Also the specimens of birds in public and private collections have never been sufficient in number or representative enough geographically to give the systematic ornithologist the material necessary for final and accurate determination. The continual discovery of new sub-species, as material in ornithological collections has increased, has called for new names, and has required continual changes.

Species and sub-species of the same genus differ in appearance from each other mainly in color and size. In the early history of ornithology the species was the unit, but more recently the comparison of many individuals of a species from different parts of its range has led to a recognition of minor differences in size or color, or both. For example, individuals from the northern part of the breeding range of a species may be larger and lighter or darker in color than those in the southern part

while those at midrange may show size and color intermediate between the two. The two or more geographic forms of a species exhibiting fixed differences are therefore described as races of sub-species,—as Caucasians, Mongolians, and Negroes are characterized as races of man. Ornithologists in naming these races now use the trinomial, or three-name, system. The generic and specific names together denote the species. The name of the genus comes first, and is capitalized, the name of the species second, and that of the sub-species third. As, for example, the Robin: *Planesticus migratorius*. There is but one species of Robin in North America. There is a recognized western race of the Robin known as *Planesticus migratorius propinquus*. Consequently, we apply to the Eastern Robin the nomenclatural equivalent: *Planesticus migratorius migratorius*. Then, again, there is a small pale southern Robin now known as *Planesticus migratorius archrusterus*. Here is but one Robin represented by three sub-species. The differences in size and color are not very great. Why, then, recognize races at all and dignify them by names? To this it may be answered that as we advance in the study of ornithology we are driven to trinomials by the fact that some species are now known to have many geographic races, some one of which may differ far more from some other in size and color than do certain distinct species, and yet there are connecting links between all of these races.

If we take another common and widely distributed bird, the Song Sparrow, we find that at least twenty-three races of this species are now recognized, and if we compare the small, pallid, Desert Song Sparrow with the large, dark Aleutian Song Sparrow we find that these two races of one species differ in size, shape, and color more widely than do such distinct species as the Song Sparrow and Lincoln's Sparrow. There is even more apparent difference in appearance between these two races than the novice will see between the Eastern Song Sparrow and the Fox Sparrow—birds not only of different species, but also assigned to different genera. Nevertheless, the Pallid or Desert Song Sparrow and the Aleutian Song Sparrow are connected by a chain of sub-species.

Genera and species are not immutable. Many of the distinctions of the past represented mainly the gropings of the human intellect in a new field. Now minute differences are more carefully noted. Some of the former genera are now regarded as species, and some of the former species are considered as mere races. There is perhaps no fixed and universally accepted definition of just what constitutes a sub-species, and in the finer points of classification ornithologists do not always agree; also there is a constant evolution going on in nature. Many of the races now recognized may be species in the making. If for any reason the connecting links in the chain of sub-species between the Pallid or Desert Song

Sparrow and the Aleutian Song Sparrow had disappeared, these two birds would probably be recognized as well-marked species. Years ago the Heath Hen (now extinct except on the island of Martha's Vineyard, Massachusetts) and the Prairie Chicken were considered by Audubon as one species, and described as the Pinnated Grouse. Since that time all connecting links between the eastern bird and the western bird have been extirpated, and now we have two distinct species. On the other hand, the Western Meadowlark, *Sturnella neglecta* of Audubon, is now considered by some ornithologists to be no more than a race of *Sturnella magna*, of which we may perhaps have to record three principal North American forms: *Sturnella magna magna*, the Eastern Meadowlark; *Sturnella magna neglecta*, the western race; and *Sturnella magna argutula*, the southern form. This is a possibility, not a prediction. Who can say what systematists may do? Already several additional forms of the Meadowlark have been described. By describing and recording each geographic race we may some day throw more light on the evolution of species.

What names, then, must the novice choose, who does not care to collect birds and preserve their skins, but wishes only to name the birds without a gun? He should use the vernacular names given in the last edition of the Check List of North American Birds, published by the American Ornithologists' Union. These names are now utilized by practically all publishers of bird books in the United States, but only the most recent editions are up to date.

The student of birds in the field will do well, at first, if he is able to recognize the species, leaving the sub-specific determinations to a later period, when he will have the advantage of longer study and experience.

Field Glasses and Other Helps

To learn to identify birds readily the student needs keen eyes and ears, an opera glass or field glass, a notebook and pencil, a color key and a book with colored illustrations, and some training in careful observation. It will be a great advantage if there is a museum accessible, where he can see mounted specimens; or a library where he can find the more pretentious works on ornithology that contain colored plates of birds. A small, light-weight opera glass is all that is necessary for viewing the smaller birds at close range. The expensive prism binoculars, magnifying many times, are excellent for the adept, but the beginner with them will have difficulty in finding the bird at all. The 8-power binoculars are excellent to use in the open, and on rather long-distance work, especially at the seashore, and they have an arrangement for adjusting the eyepieces to all eyes; but where a bird is skipping about among the branches of trees in the woods, it will often disappear while the novice is trying to

follow it with such a glass. A common opera glass of good quality, with a larger field of vision and magnifying about three times, will do very well for ordinary use. Each glass should be tested before purchasing, and the purchaser should, if possible, select a glass with the eye-pieces so adjusted that in using it he can see but one field. If he sees "double" the glass is "out of line." For waterfowl or sea birds a marine glass is useful.

To learn the proper use of the opera glass, select some bird in the open that is sitting still, if possible. Have your back to the sun, so that it will shine directly on the bird. Focus the glass on the tree, and then find the bird by noting the position of the branch and sighting the glass as you would a gun.

Points to be Noted

Note the size of the bird. It will be difficult at first to judge this size in inches, but you may compare it with certain common and well-known birds. You may have a scale of sizes, beginning with the Yellow Warbler or Chipping Sparrow, and reading like this: Chipping Sparrow, Song Sparrow, Bluebird, Catbird, Robin, Dove, Crow. Observe these birds well, and note the size of each. Turn to your book and get it in inches. Write it down; commit it to memory; have it always in mind. By making good use of such a scale, you may become expert in judging size by comparison.

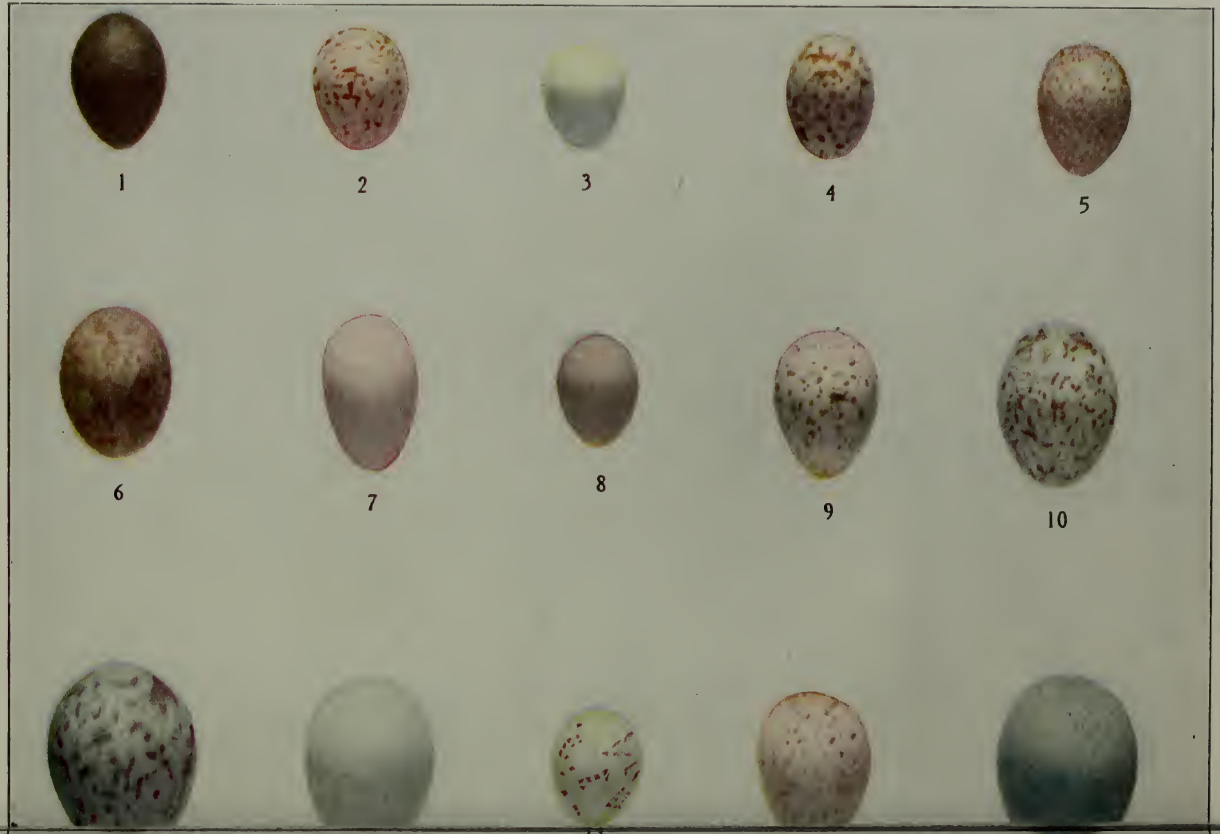
Next, the shape of the bird is important. Note whether the bird as a whole is slim or stout. Some allowance may be made regarding how the feathers are carried at the time. All birds can raise or lower the feathers of the body at will. They are likely to appear plumper on cold days than on warm ones. The bill is an important diagnostic feature. Few people who describe birds to me in the hope of having them identified ever mention the bill. If you can see the shape of the beak, you may be able to refer the bird at once to the family to which it belongs. If it is not much larger or smaller than a Song Sparrow, and has a short conical bill, it is a seed-eater, probably a Sparrow. If it is a little smaller than a Song Sparrow, or about the size of a Chippy, and has a rather short but slender bill, nearly straight or a trifle curved, probably it is a Warbler, or belongs to some other insect-eating family. Flickers, Cuckoos, Thrashers, and Creepers all have rather slender curved bills. The bills of most Woodpeckers are stout and straight; those of most Sandpipers are slim and straight, while the bills of Plovers resemble those of Pigeons and Doves.

The length and shape of the tail are important. Try to see whether the tail is long or short, and whether the end is rounded, square, or forked. If the bird is large, with a hooked beak and long tail, probably it is a

EGGS OF AMERICAN BIRDS

Plate II

1. LONG-BILLED MARSH WREN
2. CHICKADEE
3. BUSH TIT
4. BROWN-HEADED NUTHATCH
5. HOUSE WREN
6. SHARP-TAILED SPARROW
7. BANK SWALLOW
8. GOLDEN-CROWNED KINGLET
9. BARN SWALLOW
10. SONG SPARROW
11. ROSE-BREASTED GROSBEAK
12. BLUE BIRD
13. BLUE-GREY GNATCATCHER
14. WHITE-BREASTED NUTHATCH
15. WOOD THRUSH
16. ABERTS' TOWHEE
17. BENDIRE'S THRASHER
18. OLIVE-BACKED THRUSH
19. BLUE GROSBEAK
20. CARDINAL
21. MOCKING BIRD
22. CATBIRD
23. BROWN THRASHER
24. ROBIN
25. CALIFORNIA THRASHER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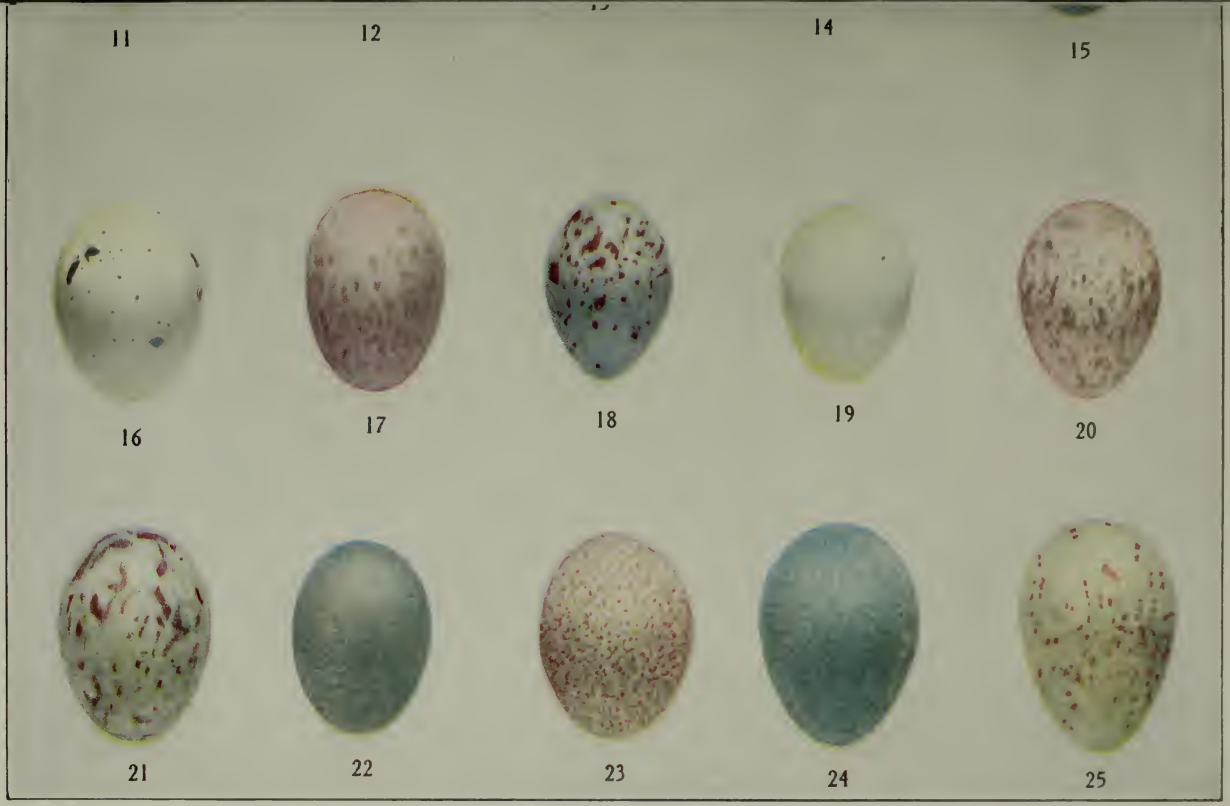
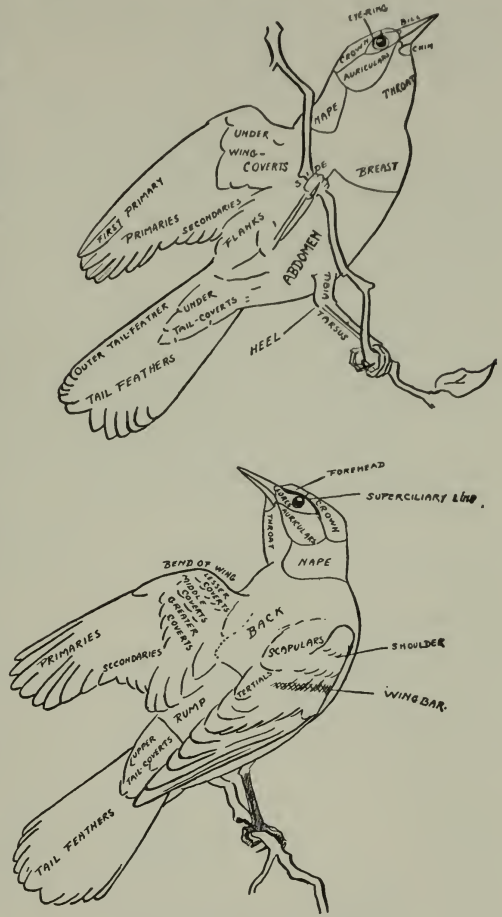


EGGS OF AMERICAN BIRDS (PLATE II)

Hawk. If the beak is long and straight, or nearly so, the tail short and the legs long, it must be a Heron, or some other wading bird.

The color of the bird is very important; indeed, it is about the only feature ordinarily observed. First, if possible, note the color of the upper parts, i. e., the top and sides of head, back and sides of neck, back, wings, and tail; next that of the under parts,—throat, front of neck, breast, and belly. Remember that the breast and belly often will seem darker than they really are, on account of being in shade. Thus a pure white will seem gray. Many birds have some prominent mark or color by which they may be identified in the field. Be careful to note just where each color actually is; then note any conspicuous mark, and exactly where it is placed, for such a mark alone, taken with its situation and the size of the bird, often is enough to establish its identity. The Vesper Sparrow, for example, is known from all the other common summer Sparrows by the white webs of the two outer pairs of tail feathers, which show in flight; while the Junco may be known from other winter Sparrows by a somewhat similar marking. The Song Sparrow shows a cluster of spots which form



TOPOGRAPHY OF A BIRD

From a drawing by Henry Thurston

blotch on its spotted breast just below the throat, while the Tree Sparrow has a single spot on a plain gray breast, and two whitish wing bars. The Flicker and the Meadowlark each have a black crescent on the upper part of the breast, but the Flicker's breast is dotted, while the Meadowlark's is a clear yellow. The color of the bill or feet may sometimes aid in identifying a bird.

The Note-Book

In this work the note-book and pencil are indispensable. The effect of noting down details on the spot is to sharpen the powers of observation and strengthen the memory. Then, also, you have something permanent to refresh your recollection. Note down on the spot, size, shape, color, and markings, also shape and appearance of beak and tail (when you can see them), for future reference. This will help you to identify the bird, and to fix its identity in your memory, or, if you carry a handbook with colored illustrations, look up the bird at once, so as to settle the matter by further examination of the bird, if possible. Remember, however, that no handbook gives color plates of all plumages of all the birds.

The note-book should be marked as follows, or in some very similar manner (the large type indicating the heading to be written in the books, and small type the records to be made):

Date—
Month, day, and year when observed.

Size—
As directed above.

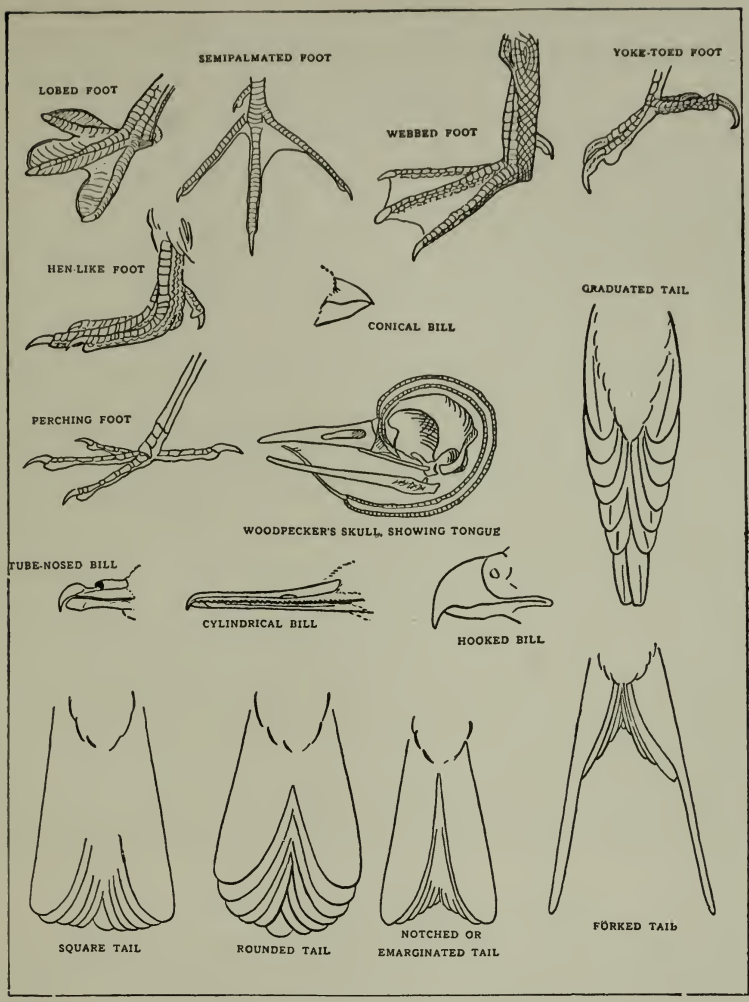
Description—
See the accompanying chart of the Topography of a Bird and the drawings of tails, feet, and bills.

General Color above

General Color below

Forehead		Crown
Nape	Back	Rump
Chin	Throat	Lores
Breast	Abdomen	
Tail: Color		Shape
Bill: Color		Shape
Wing: Color		Shape
Feet: Color	Arrangement of toes	

Movements—
Hop, run, bob head or tail or both, sit quietly or flit about continuously, nervous or deliberate.



From a drawing by Henry Thurston

Flight—
Direct, zigzagging, diving, sailing, wavy, or combinations of these.

Song—
Harsh, sweet notes long drawn out or in series, variety of notes, one or more calls, call in flight or at rest or both; what does the bird seem to say in our words?

Habitat—
Trees (high up or low down), shrubs, ground, buildings, water.

Localities Frequented—
Meadows, forests, orchards, homes, foot-hills.

Food—
Insects, grain, fruit, seeds, vegetables.

Economic Value—
Is this bird useful or useless?

Remarks—
Points not covered by this outline

From these observations, stories can be written like those on the following pages.

The expert can determine many birds at a distance by their characteristic flight. An ornithologist, constantly in the field, can identify many a bird by its flight alone at a distance greater than that at which most people can recognize a friend by some peculiarity of his gait; and the beginner, by making good use of his opportunities, will soon learn to recognize a Buzzard Hawk such as the Red-tail by its wheeling flight, or a flying Green Heron by the downward bend of its wing tips. All Woodpeckers bound forward in flight, as they travel by rising for a few wing beats, and then sliding downward with the wings partly closed. The Goldfinch also has an up-and-down flight. The gait of the bird on the ground may determine the species or at least the family. Crows, Grackles, Blackbirds, Ovenbirds, and some others walk, while most birds progress by hopping, although now and then a hopping bird may surprise you by walking a few steps on clear, open ground. The Pipit, the Yellow Palm Warbler and the Water Thrushes all wag the tail up and down while moving about,—something not habitual with most other birds.

Bird Notes as a Means of Identification

The notes of birds serve as an excellent means of identification, although there are a few birds which can imitate well the notes of others. Among these are the Crow, Blue Jay, Catbird, Brown Thrasher, Starling, and the famous Mockingbird. The note furnishes a clue to the presence of the bird, and assists the searcher in his quest, but if he relies on the note alone he may be mistaken. No rare bird should ever be identified and recorded by its note alone. I have seen a Black-throated Green

Warbler in the act of singing continually the full song of a Warbling Vireo, a Blue Jay singing exactly the song of a Baltimore Oriole, another reproducing the whisper-song of the Catbird in October, and a Catbird giving the note of the Crested Fly-catcher. The Blue Jay often utters a cry like that of the Red-shouldered Hawk.

I have heard from the marshy border of a river notes exactly like some produced by the Flicker and the Bob-White, which I was forced to attribute to a Sora Rail. Mr. Henry Oldys of Silver Spring, Maryland, informs me that he has heard the note of the Towhee given by a Bewick's Wren and a Song Sparrow; those of the Cardinal Grosbeak, Wood Thrush and Red-winged Blackbird by the Catbird; those of the Phœbe by a Shrike and a Chickadee (not the so-called Phœbe song of the Chickadee, but a much closer imitation that so deceived him that he recorded the Phœbe's arrival prematurely for four successive years). He asserts that he has seen the Black and White Warbler utter the note of the Chipping Sparrow, the Red-eyed Vireo imitate the Wood Thrush, and the Yellow-breasted Chat mimic the Bob-White. The European Starling is fast becoming abundant. It mocks the Meadowlark and other birds, and there are Starlings with powers of mimicry second only to those of the Mockingbird.

As a novice will see colors in the wrong places, or fail to see colors in the right places, so he will hear birds wrongly, or fail to hear them at all.

Day by day people canoeing on the river pass my window, while the note of the Bittern booms over the river meadows. It may be heard a mile, yet they never hear it; or rather, they are not conscious of hearing it, or they mistake it for the sound of a wooden pump. As evening falls, Night Herons call and croak along the river, but these people do not hear the raucous cries, or rather, they do not notice them, or perhaps they ascribe them to dogs. The student of birds soon learns to distinguish such sounds as these, but he cannot realize immediately that the song of the Grasshopper Sparrow is not that of one of the insects of the field, nor does he learn at once to hear the faint chirps of migrating hosts of Wood Warblers which pass over or through the country twice each year nearly unnoticed.

An ornithologist if stricken blind, but endowed with perfect hearing, might still get an approximate idea of the number of birds of most species resident in a locality, for most birds are vociferous at times, and some much of the time.

Many people, however, have great difficulty in recognizing or remembering bird notes. Others are afflicted with tone deafness, and are unable to differentiate between tones and calls of an entirely different quality. Many persons of middle age who can hear ordinary conversation cannot

distinguish the notes of Warblers and other small birds at a distance, as all such notes, pitched higher than the upper octaves of the piano, are of such fine quality that they make little impression on the eardrums of those whose hearing is at all impaired.

In studying bird songs the note-book is indispensable. Write down in syllables what the birds seem to say as you hear it at the time. Accent it as the bird accents it, and if you are musical you may even get an approximation of it by note. These notes may refresh your memory, and help fix the call or song in your mind.

Birds do not really articulate, or if they do, the sounds are mostly vowels: yet we may imagine that they enunciate words. In learning the songs of birds one may take the notes of some common loud singer, like the Robin, as a standard, and by comparison determine how those of other species differ from it. This is good training for the ear. Some people cannot see any difference at first between the songs of the Robin and the Wood Thrush, but to the initiated they have nothing in common. In quality of tone beginners usually see little difference between the songs of the Baltimore Oriole, the Robin, the Scarlet Tanager, and the Rose-breasted Grosbeak. Nevertheless, the Oriole's lay is almost a pure whistle, the tune varying much with different individuals; the Robin's song is a bold warble, a little strident in places; the Tanager sings a weaker, finer note, like an undeveloped, hoarse Robin; and the Grosbeak has a beautiful clear warble, rather loud at times, but perfectly pure and mellow.

Unfortunately for the novice, a bird may have two or more distinct songs. Some commonly have many, while rarely do two individual birds of a species sing precisely the same tune; but this disparity only makes the study of their vocal powers more interesting. Occasionally a very gifted individual will eclipse the performance of all rivals. The caw of the common Crow is well known, but its love notes and its conversational abilities when ministering to its young are seldom recognized. In early spring or late winter the Crow often gives forth quite musical sounds, and I have heard one closely imitate other birds and animals, though this is probably exceptional. Many singers not ordinarily gifted have beautiful flight songs. It is not generally known that individual Meadowlarks are fine singers when in flight.

Trying out the Plan of Identification

Now to put our plan of identification to the proof. We are boating some cloudy afternoon along the margin of a river meadow. We enter an opening crowded with lily pads, where a small slough opens into the stream. A bird larger than a Crow flies up from among the reeds; its

long, nearly straight beak, its short tail, its long legs, hanging down at the start, and its manner of flight, with neck extended at first and then drawn in, proclaims to the world that it is a Heron. It appears to be ash gray above, whitish below, but looks blackish on the crown and back. As it flaps heavily away it sends back a loud *quock*. We have seen enough to learn from our key that the bird is an adult Black-crowned Night Heron. Soon another flies. It appears like the first in size, but it is rich brown in color above and lighter below, streaked and mottled. Its note is a croak, not nearly so explosive as that of the first bird, and it flies a little slower. Our book tells us at once that we have seen the American Bittern, even if we have failed to observe the black streak on the side of the neck. As we drift on down the river, a startling *scowoo* comes from the trees on shore, followed later by a few dry cacklings. Then a smaller Heron, that appears hardly as large as a Crow, flies out over the river, with a harsh *squawk* or *quak*, and down along the shore. Its wing strokes are rather quick, but there seems to be almost a pause between strokes when the wing is held with downward-bending tips. In color the bird seems dark, with a greenish back and bluish-green wings. Its size, flight, note, and color proclaim it an adult green Heron. Soon another bird, resembling the Night Heron somewhat in size and color, is seen flying low over the meadow, coming upstream. As it comes abreast of our position we can see with the glass that there is no long bill, neither are there any long legs dangling behind, nor is there any blackish tone on the back, but the bird has a long tail and black wing tips. It moves in silence, and now it hovers over a tussock, dives into it and goes on. The screaming Blackbirds chase it across the meadow. This is no Heron, but a Hawk; its size, larger than a Crow, its color, light ashy above and nearly white below, its black wing tips,—all show it to be an adult male Marsh Hawk. One of the best field-marks of the Marsh Hawk, both male and female, is the white upper tail-coverts. Thus we see how a few well-marked characters may enable us to identify our birds.

As one advances in the study, the manner in which birds feed, the character of the locality in which they are found, the location and construction of the nests, the size and color of the eggs—all tend toward fixing the identity of the birds.

It is well, before going to a marsh or lake, the seacoast, or a dense forest, to "read up" on the birds to be found in such localities. A key to the birds, with a system based on the colors and markings, will be serviceable, particularly to those who are not intending to study ornithology scientifically, and have no opportunity to handle and examine specimens. The work of identification will be difficult at first,—far more difficult than it would be in the study of botany or geology, for the birds

will not always stay to be studied. But in time one learns to recognize many species at the first glance, until, almost unconsciously, he comes to a time when most of the birds he sees or hears are old friends. With me the day has long since passed when new birds could be seen or heard almost daily. I have traveled thousands of miles and have endured many hardships to see and hear new birds. But you who are just beginning this study may meet a new bird any spring day merely by walking out into the pleasant fields and green woods. For you the keen delight of search, discovery, and pursuit are close at hand. Surprises await you at every turn. Delay not, then, but turn at once to the woods and fields.

How to Approach Birds

Even the novice need not be taught how to approach the more common and familiar birds, which seem to court, rather than shun, human companionship; but there are times when it becomes necessary to get close to a rare bird, to examine it carefully or observe its habits, while a near approach to a shy bird may tax the powers of the most skillful observer.

The Approach on Foot

To be successful in this the beginner must imitate in some respects the behavior of the fox or the lynx, which are able occasionally to get near enough to wild birds to capture some that the human animal finds difficult to get within range of his field glass. How are the wild animals enabled to do this? (1) They are inconspicuously or protectively colored. (2) Their feet are softly padded and their movements noiseless. (3) They go on all fours, creeping close to the ground, and, taking advantage of the slightest cover, keep concealed as much as possible. (4) Their movements are so slow, when necessary, as to be imperceptible. In all these things we may imitate them.

Bird students often are dressed conspicuously, and shod with hard leather. Their tread, as it jars on the delicate senses of the lower animals, seems to shake the ground. The dead wood is broken underfoot. They talk, laugh, and even shout with a loud voice. Standing erect, they are exposed to the view of birds for a mile or more around. Some of them wear large head-gear, and turn their heads about quickly. They swing their arms, and move about, pointing, gesticulating, and assuming attitudes all of which seem menacing and fearsome to the shyer birds.

Even such students will see birds, for many of our feathered friends have become accustomed to strange sounds and antics. But the expert who sees all the birds has taken lessons from the fox; he hunts alone.

When one is in the company of others, nature never completely enthralls him. His attention is more or less distracted by his companions, and he fails to see and hear all.

The bird student should attend entirely to the birds, and then they will requite his singleness of purpose. When alone, he has no one to converse with and no interruptions. The human voice warns all creatures from afar of the approach of their arch enemy, man; let it be stilled, and nature is at peace.

We may muffle the tread by wearing rubbers, or, better, shoes with rubber heels and rubber or fiber soles. Those having merely an outer lift and tap of rubber on heel and toe are best. The rubber will prevent the feet from slipping on rocks and pine-clad hillsides. The light canvas "sneakers" commonly used are not sufficient protection to the feet on rough, stony ground. Leather footgear should not be stiff or squeaky. We may avoid the rustling of dry leaves by choosing for our tramps the early morning, when the dew is on, or the hour succeeding a light shower. Care should be taken not to tread on dry sticks so as to break them, as sharp sounds alarm all wild creatures.

In dressing avoid black, white, and all striking colors and contrasts. A dull dead-leaf color, like that of the shooting coats ordinarily sold to sportsmen, is good at any time. In spring and summer green is very good. Certain grays and browns harmonize with natural objects.

The vision of most birds is far superior to our own, or that of mammals; it is nearly, if not absolutely, perfect. Therefore, it is necessary in approaching shy birds, such as waterfowl or Hawks, to use as cover trees, shrubs, or grasses. Often one can advance only on hands and knees, or crawl prone like a serpent.

Frequently I have approached wild fowl by creeping in the paths made by Raccoons, Hares, Opossums, and other animals under grasses and low shrubbery. At other times I have been obliged to creep or wriggle through short grass, in mud and water, to reach some desired point of observation. In such cases, when within sight of the birds, a screen of vegetation must be kept always before the face, or the birds will take alarm and be off at once. Birds so wild that they will not allow a man on foot to come within half a mile may be approached noiselessly in this way within twenty or thirty yards, but the labor and discomfort are great.

When nearing shy birds in this manner, keep under cover and do not raise the head. If it becomes necessary to take an observation, the head must be raised but little, and both raised and lowered so slowly that the motion will be imperceptible. Always approach against the wind, if possible, for the birds are then less likely to hear you. Do not allow the

sun to strike on any metallic or glass object, for the reflection or flash will give the alarm.

Many people will not take such pains in approaching birds. Others cannot, but must either decoy the birds within reach, watch them with long-range glasses from wooded shores, or get up to them in less difficult and more conventional ways. Such people may see shy birds sometimes at rather close quarters by driving slowly along the country road. The extra elevation given the observer by the vehicle increases his visual possibilities, and the birds have learned not to be suspicious of an equipage on the road. Birds sometimes may be approached on horseback better than on foot. Gunners sometimes employ grazing cattle as moving shields behind which they near the game unnoticed.

When approaching shy birds on foot in the open, a zigzag, circular or sidelong course may bring you much nearer than will a direct forward movement. It is well to avoid the appearance of stealth, and seem not to notice your bird. Make no quick movements, and do not hurry. Most birds meet violent deaths, and they must be constantly on the watch for their enemies. They are accustomed to flee for their lives from quick-moving creatures. Quick movements with the raised arms should be avoided, and the glass should be raised slowly.

The Use of Canoes or Boats

Shy water birds and marsh birds sometimes may be approached by the skillful use of a canoe. Let the canoe drift slowly along the marshy margin of a river, and watch the reeds and rushes closely. In this way Rails, Coots, Gallinules, and Sandpipers are seen at close range. I have approached very near to resting flocks of shore birds by sitting or lying motionless in an Indian canoe, and drifting down upon them. The canoe may be used to advantage on a river, not only in watching Bitterns, Rails, and other marsh birds, but also in going close to the smaller land birds in trees and bushes on the bank. For this purpose the canoe is much superior to the rowboat. It is noiseless and the paddler faces the bow. Many birds may be seen at close range by working a sailboat up or down a river before a light, fair breeze. A small boat covered with bushes, and sculled or allowed to drift down on birds, sometimes is useful. A fast-sailing boat is one of the best devices for approaching swimming birds on a windy day. Such a boat maneuvered skillfully will be upon the birds before they are aware of its nearness. During a squall I once drove a sloop so near a Sheldrake that the bird rose on the next sea as we swept past. There is an advantage in sailing down wind, as the bird must rise toward you against the wind, and may come quite near, giving a good view, first of the breast and then of the back as it

turns away. The noisy motor boat is the abomination of the bird student. It has driven most of the waterfowl from our eastern rivers.

Watching Birds' Nests

When birds have young in the nest they usually are less shy than at other times, forgetting their regard for their own safety in their solicitude for the welfare of their offspring. Therefore they are then comparatively easy to approach. For this reason, if for no other, the bird student should strive to find the nesting sites. He should hunt for the nests of birds in winter, or very early in spring, while the trees are still leafless. Some birds use the old nests, others build again on the same bush or tree, or near it. A record of the old nests found will tell the searcher where to look for new ones in nesting time. By visiting such situations when birds are nesting one may see the birds carrying building material to their new nests.

A word of caution is necessary here, however. Those who have found and watched birds' nests often complain that something usually happens to the eggs or the young birds. I have learned by sad experience that a close and frequent examination of a bird's nest in the woods only serves to call the attention of the bird's enemies. There are creatures always on the watch for an opportunity to rob birds' nests. The fox sometimes follows a man-track. Perhaps he has learned that the path of man in the woods may lead to food. Too often the man-trail leads to wounded or dead birds and animals—a lunch that may reward the fox. Fish heads and other offal are thrown out around a camping place. So Reynard cunningly follows. Those who watch or photograph birds' nests on the ground run the risk of leading both fox and skunk to them. A friend who was photographing birds' nests found that they were being robbed by a fox which was actually seen following the trail. Those who closely examine the nests of birds in trees or shrubbery are likely to be watched unawares by the astute and cautious Crow, the thieving Jay, the mischievous Squirrel, or the blood-thirsty Weasel. I have seen both Jay and Squirrel following a man through the woods, keeping well hidden from his sight. If you approach a nest containing young, the cries of the parent birds may apprise all the wood folk of its location. Therefore, watch the birds with a glass, and do not go too close to the nest. Those who approach the nests of Herons or water birds that breed in colonies drive the old birds away, and thus expose the eggs and young to the attacks of Crows, for Crows are quick to seize such opportunities.

When watching a nest, approach it with caution, and observe it from such a distance that neither young nor old will be much disturbed by

your presence. Many interesting habits may be seen in this way if a good glass be used.

How to Attract Birds

He who, unable to go far afield, waits and watches for birds in some secluded spot, or imitates their notes and so calls them to him, may learn more of their ways than will the most active pedestrian.

Luring Birds by Food

The country dweller may entice birds to the homestead by planting fruit-bearing trees, shrubs, vines, and other plants that will supply them with food. (See Vol. 5: "Gardening.") Even the urbanite possibly may attract a few Chickadees or Nuhatches in winter by putting out suet on trees; but other means are required to bring birds about the student in the field. You may facilitate your winter bird study by scattering millet seed or hayseed in suitable spots along your walks, or by hanging bones and suet in favorably situated trees, that you can visit now and then. In spring and fall small grain will attract Thrashers, Blackbirds, Bob-Whites, and Crows. Chestnuts and corn scattered about in the late fall or early winter will gather all the Blue Jays in the countryside.

Imitating Birds' Notes

In summer, if the person be carefully concealed, some of the shyest birds may be brought near by mimicking their notes. Many bird notes may be imitated by the voice. Crows, Owls, some Herons, and some Ducks may be deceived in this manner. The Bob-White, Whip-poor-will, Red-shouldered Hawk, Baltimore Oriole, Bluebird, and others may be called by skillful whistling. The hunter has a call for Plovers and Sandpipers. He lures the Wild Turkey to its death by a call made of a wing-bone of one of its kind.

A sound which often is quite successful with the smaller birds is made by moistening the lips and sucking in the breath, with the back or side of the hand placed over the mouth. A certain call thus made will deceive the Blue Jay in summer or winter. When a Ruffed Grouse or Partridge with little chicks is discovered, you may keep the bird near you for some time by crouching and imitating her squeal or the thin whistle of her young chicks. In the breeding season most birds are deceived by an imitation (made on the back of the hand) of the scream of a young bird. By making this sound in a thicket near a Catbird's or Robin's nest, it is easy to alarm these birds so that their cries will bring within view most of the other birds in the neighborhood. This "screeping" sound will sometimes entice birds out of a thicket at other seasons of the year.

A Yellow-breasted Chat, thus called, almost alighted on my head. The Crested Flycatcher may be called in this way, even in the fall. Catbirds, Thrashers, Vireos, Thrushes, and Warblers all may be enticed by this call. If the observer is alone and well hidden, they will sometimes come within reach of his hand.

Utilizing the Curiosity of Birds

A captive Screech Owl in a tree will cause a gathering of most of the small birds of the neighborhood, whether in wood or orchard. Even a tame Crow, or tethered Cat, may attract some birds in nesting time. Many birds evince an acute curiosity. When collecting birds in my boyhood I stalked my first Sandhill Crane nearly a mile on an open prairie. We were out of provisions, and living on the country. Meat was a necessity; so when venison or wild Turkey was wanting we, perforce, must descend to roast Crane or baked Owl. The bird was first seen from the timber feeding in the slough. Waiting until it had lowered its head after glancing around, I made a short run through the prairie grass and dropped, to give the bird another chance to reconnoiter. Advancing thus "by rushes," I gained the edge of the slough unseen, being then within two hundred yards of the bird. I waded in. Just then the bird raised its head. I fell flat in the two or three inches of water, and the Crane flew off; but soon it swung its head to one side and looked back. Then, apparently, it began to wonder about the half-concealed thing lying there in the water. Slowly it swung round in a wide arc and came back, flying low, directly overhead. The thing in the water never moved until the Crane had passed. Soon afterward the Crane's skin changed owners, and a large slice off the bird's breast helped to fill a void that had held only two crackers that day. It was but another illustration of a theory of Darwin and Wallace—the survival of the fittest. Necessity knows no law but that of self-preservation. Still, if the ethics of the case are considered, no doubt the bird had the prior right to occupy that slough. Since then I have seen the Great White Heron, the Great Blue Heron, the Great White Egret, the Bald Eagle, and several species of wild fowl manifest their curiosity in a similar way.

It is difficult for most birds to understand the meaning of a silent human figure lying prone and half concealed. While so reclining I have been closely approached by Eagles and Vultures. It is said that the Fox sometimes will attract wild Ducks within leaping distance by allowing its tail and back to show a little as it plays about in the long grass on the shore. A concealed hunter sometimes will attract wild fowl toward the shore by waving a red rag on the end of a stick, or by using a small dog trained to gambol in the grass.

There are easier and pleasanter ways, however, of attracting the shy birds of the woods. "Nessmuk" says that there is an art which outflanks all wild animals—the art of sitting on a log. This sylvan necromancy consists of sitting absolutely still, and keeping both eyes and ears open. This will not generally succeed with wild fowl, except perhaps with the Mergansers, the Wood Duck, the Harlequin, and possibly a few others.

I once sat on a stone on the shore of the diminutive harbor of an island off the coast of British Columbia, and watched a flock of Harlequin Ducks swim around a little headland and come almost to my feet. Here the "Lords and Ladies," the handsomest of all Sea Ducks, played about for some time, showing off their plumage, throwing the sparkling drops from crest to wing; but at my first movement they beat the water into foam, sweeping away in a frenzy of affright.

Most River Ducks cannot be deceived in this way. They will fly at first sight of man, so the observer must be well concealed. But all wood birds, both shy and rare, may be outgeneraled by the quiet sitter. They seem to wonder what manner of thing this is that looks so like a man, but neither smokes nor swears, talks, laughs, nor tramps about. Slowly they draw near and peer at the curiosity, and finally they apparently conclude it to be harmless, and go about their usual avocations.

While I have been writing this in the Concord woods a bright Scarlet Tanager has sung and hopped about for ten minutes on some branches about fifteen feet away, on a level with my face. A Red-shouldered Hawk has alighted on a limb five feet from the ground and seven paces away; two Jays have chased a pair of Red Squirrels through the nearest tree; a Black-throated Green Warbler has come to a branch just above my head and peered into my face; a Black-billed Cuckoo has surveyed me from all sides. The other day a Sharp-shinned Hawk swept up the hill and alighted on a limb before my cabin. He scanned the ground, the trees, the bushes by the river shore; but every little terror-stricken songster crouched concealed. Then the Hawk caught the movement of my eyelid, sprang upon the air and swiftly glided downward and away, as noiselessly as he had come. Even the astute and wary Crow will forget in time his characteristic caution, and indulge his curiosity enough to alight near by and scan the intruder nervously.

The Watcher's Protection from Insects

There is one great drawback, however, to this method. In summer our woods are infested with mosquitoes, as well as with gnats and flies. A pair of light leather gloves, a net or veil of a mesh smaller than ordinary mosquito netting, to wear over the hat and head, and a light blanket

or wrap that can be carried in a shawl strap, will enable one to keep quiet and yet defy the troublesome insects. A light camp-stool also is useful.

One who desires to camp in the summer woods will need a different outfit. For more than twenty years I have used a small "A" tent, made of olive-brown duck, with a flap to tuck under the blankets. It is seven feet long, four feet wide and three feet high. A small line is sewed along the top, which may be tied at each end to a tree or a stake to support the tent. Eight loops of heavy twine are staked down with forked sticks to hold out the sides. The ends are made of coarse cheesecloth, or fine netting, and the lower edges are provided with flaps to tuck under the blankets. A rubber blanket and a single light woolen one, with a cotton bag to be filled nightly with moss or grass for a pillow, complete the outfit, which may be rolled up and carried by a strap handle or "packed" above a knapsack. The birds soon become accustomed to this tent, and even will alight upon it. For several evenings it was the favorite perch of a Screech Owl. From it I have watched the shore birds and Seals on barren islands. In it I narrowly escaped being run over by two Deer. The Puma has circled around it, and once a Wildcat actually walked on it, stepping on my breast.

"Hides" and "Blinds"

From such a tent, or from a screen of netting you may watch the Ruffed Grouse, or Partridge, and her callow brood. You may camp by a heronry and see the old birds come and go and feed their young. I have camped on a small dry mud bank in a great swamp, with no other dry land for miles around, being entertained by the nightly concerts of mosquitoes, Ducks, Herons, Frogs, and Alligators, without the least discomfort or inconvenience.

There are shelters in which one may remain concealed, varying in construction from the log camp of the sportsman to the bough camp of the Indian or the "hide" or "blind" of the gunner. The umbrella blind used by bird photographers is an excellent device for watching birds if set up in the shade. In full sunlight on a hot day it is about as comfortable as a Turkish bath. If the birds to be watched are very wary, it is best to set up the blind and leave it for several hours or even a day, that they may become accustomed to it. The observer should be accompanied by one or more persons when he goes to conceal himself within it. When his companions leave, the birds' suspicions are allayed, and curiosity may impel them to a close approach. Wooden decoys used in connection with "blinds," and bird calls will enable an expert to lure most shore birds as near to him as they will come to the gunner. A skillfully constructed blind placed on or near a long sandbar or point of the shore, and

a few lumps of mud or turf judiciously distributed on the point, may enable one to get a good view of the several species of wild fowl. Apparently the flying birds at a distance mistake the clods for some of their own number, and come on, intending to alight. The best decoys are living birds anchored so that they can swim about. Sometimes a single Grebe or Duck in a small pond will attract a flock of several species. Many game birds and water-fowl may be baited with grain; but this is a method for those owning estates where birds can be protected, and should not be attempted by any bird student who would assemble the birds thus only to leave them to the tender mercies of the pot-hunter.

Those who wish to lure the sea birds may have some success with Gulls by putting out fish or offal upon some beach or bar, near a blind; Gulls may be seen anywhere about the harbors of cities where they are not molested. They frequent all places where fish offal and garbage are thrown into the water. To attract the birds of the ocean, however, one must go several miles to sea, where, by throwing overboard cod livers, or some similar food, several species may be lured near the boat.

CLASSIFYING THE BIRDS

By JENNIE ELLIS BURDICK

ORNITHOLOGISTS have divided the birds of America into seventeen groups or orders. Each of these orders is divided into species. Sometimes the families are divided into smaller groupings called sub-families. The ornithologists have given to each of these groups a scientific name, made from Latin or Greek words which indicate the characteristics of the birds in the groups. The following list shows the relationship existing between these different groups, and the scientific name of each. The Roman numeral indicates the orders; the Arabic numeral, the family; and the letters, the sub-family.

I.—Diving Birds (*Pygopodes*)

These are the birds which are nearest like the reptiles. Their bodies are so formed, and their legs are so short, that it is almost impossible for them to walk on land. When they try to do so

they generally push themselves along flat on the ground like a snake.

1. Grebes (*Colymbidæ*)
2. Loons (*Gaviidæ*)
3. Auks, Murres, and Puffins (*Alcidæ*)

II.—Long-Winged Swimmers (*Longipennes*)

These birds are generally seen on the wing over or near water.

1. Skuas and Jaegers (*Stercorariidæ*)
2. Gulls and Terns (*Laridæ*)
3. Skimmers (*Rynchopidæ*)

III.—Tube-Nosed Swimmers (*Tubinares*)

The birds of this order have nostrils which open through tubes.

1. Albatrosses (*Diomedeidæ*)
2. Fulmars, Shearwaters, and Petrels (*Procellariidæ*)

IV.—Totipalmate Swimmers (*Steganopodes*)

The birds grouped under this name have feet with webs between all (*toti*) the toes, making the foot like the palm of the hand (*palmate*).

1. Tropic Birds (*Phaëthontidæ*)
2. Gannets (*Sulidæ*)
3. Darters (*Anhingidæ*)
4. Cormorants (*Phalacrocoracidæ*)
5. Pelicans (*Pelecanidæ*)
6. Man-o'-war Birds (*Fregatidæ*)

V.—Lamellirostral Swimmers (*Anseres*)

These swimmers have grooves along the edges of their bills.

1. Ducks, Geese, and Swans (*Anatidæ*)
   a. Mergansers (*Merginæ*)
   b. River Ducks (*Anatinæ*)
   c. Sea Ducks (*Fuligulinæ*)
   d. Geese (*Anserinæ*)
   e. Swans (*Cygninæ*)

VI.—Lamellirostral Waders (*Odontoglossæ*)

In the five orders above the birds have short legs. In this sixth order we have birds with bills and feet like those in the fish order, but with very long legs.

1. Flamingoes (*Phœnicopteridæ*)

VII.—Herons, Storks, Ibises (*Herodiones*)

Here are grouped the long-legged wading birds generally found along the shores or on muddy flats. They have no webs between their toes.

1. Spoonbills (*Plataleidæ*)
2. Ibises (*Ibididæ*)
3. Storks and Wood Ibises (*Ciconiidæ*)
4. Herons, Bitterns, and Egrets (*Ardeidæ*)

VIII.—Marsh-Dwellers (*Paludicolæ*)

Birds of this order always live in marshy places. They have four toes, arranged like those of a hen—the back one raised.

1. Cranes (*Gruidæ*)
2. Courlans (*Aramidæ*)
3. Rails, Gallinules, and Coots (*Rallidæ*)

IX.—Shore-Birds (*Limicolæ*)

Shore-birds are so named because they are almost always found in open places along streams of water and on the open beaches.

1. Phalaropes (*Phalaropodidæ*)
2. Avocets and Stilts (*Recurvirostridæ*)
3. Snipes and Sandpipers (*Scolopacidæ*)
4. Plovers (*Charadriidæ*)
5. Surf-birds and Turnstones (*Aphrizidæ*)
6. Oyster-catchers (*Hæmatopodidæ*)

X.—Hen-Like Birds (*Gallinæ*)

The birds of this order live on the ground—make their nests there and find almost all their food there. They are shaped like the common barn-yard fowls, and their habits are much the same.

1. Bob-Whites and Quails (*Odontophoridæ*)
2. Grouse, Spruce Partridges, and Ptarmigans (*Tetraonidæ*)
3. Turkeys (*Meleagridæ*)
4. Pheasants (*Phasianidæ*)

XI.—Pigeons and Doves (*Columbæ*)

In drinking, a pigeon immerses the bill to the nostril and draws in the water in a continuous draft. So far as any one knows, no other bird drinks in this manner.

1. Pigeons and Doves (*Columbidæ*)

XII.—Birds of Prey (*Raptores*)

All the families found in this order have one general characteristic—that of feeding on other animals.

1. Vultures (*Cathartidæ*)
2. Hawks, Eagles, and Kites (*Buteonidæ*)
3. Falcons and Caracaras (*Falconidæ*)
4. Ospreys (*Pandionidæ*)
5. Barn Owls (*Aluconidæ*)
6. Horned Owls, etc. (*Strigidæ*)

XIII.—Parrot-like Birds (*Psittaci*)

Hooked bills and yoked toes—two toes turned forward and two turned backward—are the tell tale marks of this order.

1. Parrots and Parrakeets (*Psittacidæ*)

XIV.—Cuckoos, Trogons, and Kingfishers (*Coccyges*)

In this order are found three families of birds that have very little outward resemblance to each other. One man said it looked to him as if the wise men had these three families left over when they finished classifying the birds, and, not knowing what to do with them, bunched them in one order; but, of course, he had not examined their skeletons as the scientists had, and did not know that they were alike.

1. Cuckoos, Anis, and Roadrunners (*Cuculidæ*)
2. Trogans (*Trogonidæ*)
3. Kingfishers (*Alcedinidæ*)

XV.—Woodpeckers (*Pici*)

These are the carpenters of Birdland.

1. Woodpeckers (*Picidæ*)

XVI.—Long-Handed Birds (*Macrochires*)

A bird's wing has three parts, just like the human arm and hand. In this order the birds have the hand part of the wing very long.

1. Goatsuckers (*Caprimulgidæ*)
2. Swifts (*Micropodidæ*)
3. Hummingbirds (*Trochilidæ*)

XVII.—Perching Birds (*Passeres*)

Last and not least but greatest of the orders is that of the Perching Birds. These birds usually have four toes which are so arranged that the bird can grasp a branch or some other perch. In this order bird-life reaches its highest development—the nervous system is acutely sensitive; the senses of

hearing and sight are keenly developed; the circulation of the blood and the breathing are rapid; and the temperature of the body is the highest of the animals.

1. Tyrant Flycatchers (*Tyrannidæ*)
2. Larks (*Alaudidæ*)
3. Crows, Ravens, Jays, and Magpies (*Corvidæ*)
4. Starlings (*Sturnidæ*)
5. Blackbirds, Grackles, and Orioles (*Icteridæ*)
6. Finches (*Fringillidæ*)
7. Tanagers (*Tangaridæ*)
8. Swallows (*Hirundinidæ*)
9. Waxwings (*Bombycillidæ*)
10. Silky Flycatchers (*Ptilogonatidæ*)
11. Shrikes (*Laniidæ*)
12. Vireos (*Vireonidæ*)
13. Warblers (*Mniotiltidæ*)
14. Wagtails (*Motacillidæ*)
15. Dippers (*Cinclidæ*)
16. Thrashers, Mockingbirds, etc. (*Mimidæ*)
17. Wrens (*Troglodytidæ*)
18. Creepers (*Certhiidæ*)
19. Nuthatches (*Sittidæ*)
20. Titmice (*Paridæ*)
21. Wrens-Tits (*Chamæidæ*)
22. Kinglets and Gnatcatchers (*Sylviidæ*)
23. Thrushes, etc. (*Turdidæ*)

WATER AND LAND BIRDS EVERY ONE SHOULD KNOW

By T. GILBERT PEARSON

Pied-Billed Grebe

Podilymbus podiceps (*Linnæus*)

A. O. U. Number 6

Other Names.—Hell-diver; Devil-diver; Water-witch; Dabchick; American Dabchick; Piedbilled Dabchick; Dipper; Diedapper; Didapper; Divedapper; Carolina Grebe; Thick-billed Grebe.

General Description.—Length, 13 inches. Color above, brownish-black; below lighter brown and white. Bill, short and thick; no crests.

NESTS AND EGGS.—Nest: A floating structure of dead grass, reeds, mud, and vegetable matter, unattached or fastened to living rushes. Eggs: 6 to 9, white, sometimes tinged with greenish.

DISTRIBUTION.—North and South America; breeds from British Columbia, southern Mackenzie, southern Keewatin, Quebec, and New Brunswick southward to Chile and Argentina; winters from Washington, Texas, Mississippi, and the Potomac valley southward.

GREBES are very queer birds, and are more like fish than birds, in that almost their entire lives are spent either in or on the water. You will never see one on land, and in fact it may be doubted whether one could walk if it should come on shore, its legs being placed so far back on its body. Even when the bird builds her nest she does not come to land, but makes one that floats on the water. It is constructed of rushes and decaying vegetation, and is prevented from floating away by the surrounding water plants. When she leaves it she carefully covers the eggs with portions of the nesting material, which, of course, hides them from the view of any crow that may fly over, or any man who might chance to paddle his canoe that way.

These birds inhabit still ponds and lakes, and the quiet, grassy backwaters of rivers. They are wonderful divers, and can swim for long distances under water. The "Hell-diver" is one name by which the bird is often called. The Grebe's food consists of leaches, water insects, and little fish. It has a series of odd cries, which seem but a natural part of this most unnatural bird.

LOON

GAVIA IMMER (*Brünnich*)

A. O. U. Number 7

OTHER NAMES.—Common Loon; Big Loon; Great Northern Diver; Imber Diver; Hell-diver; Ember-Goose; Walloon; Ring-necked Loon; Black-billed Loon; Guinea Duck; Greenhead; Toadlie.

GENERAL DESCRIPTION.—Length, 28 to 36 inches. In summer: Upper parts, glossy black with white spots; under parts, white. In winter: Upper parts, grayish-brown without spots.

NESTS AND EGGS.—Nest: Usually a hollow in the sand, without nesting material; in some localities a rough nest is constructed of sticks and reeds; occasionally the top of an old muskrat house is utilized. Eggs: 2 dark olive-gray, stained with brown and spotted with black.

DISTRIBUTION.—Northern part of northern hemisphere; in North America breeds from Alaska across Arctic North America to Greenland, south to northern California, across the United States at about the parallel 42° to Nova Scotia; winters from southern British Columbia, the Great Lakes, and southern New England to Lower California, the Gulf coast, and Florida.

THE largest of all the Order of Diving Birds is the Loon. It is at least two and a half feet in length, and is heavy for its size. In summer it

inhabits the lakes of the Northern States and Canada, and wherever found is well known to the people of the region. No bird of our northern country has such a wild, melancholy cry. Its loud dismal notes are most startling, and as they ring across the lake just before a storm the effect is weird in the extreme. The sounds suggest the shrieking laugh of some demented woman.

The Loon lays two olive-brown spotted eggs, usually in a nest built close by the water on some islet or lonely point of marsh. It is a wonderful swimmer, and captures its prey, which consists chiefly of fish, by diving and outswimming the fish beneath the surface. When driven to earth by storms during migration it is perfectly helpless. It cannot walk but crawls, and is wholly unable to take wing except from the water, along the surface of which it flaps for many rods before swinging in the air. These birds migrate north and south along the Atlantic coast by tens of thousands.

Razor-Billed Auk

Alca torda *Linnæus*

A. O. U. Number 32

Other Names.—Razor-bill; Tinker.

General Description.—Length, 18 inches. Color above, black; below, white. Bill, flatly compressed; tail pointed.

Nests and Eggs.—Usually one egg, sometimes two, laid on the bare rock or cliffs or islands along the coast, very variable in shape and size of markings; white or bluish, spotted and blotched with sepia or black, these spots sometimes wreathed in a circle around the large end; in others, diffused over entire surface.

Distribution.—Coasts and islands of the north Atlantic; breeds on American side from southern Greenland to Newfoundland and New Brunswick; winters from New Brunswick and Ontario to Long Island, and rarely to North Carolina.

If one wishes to find this queer-looking bird of the sea it will be necessary to sail to the north Atlantic. Along the rocky shores of islands from New Brunswick to Greenland the Razor-billed Auk makes his summer home. In the crevices and cracks of the cliffs, or among the huge bowlders piled along shore just above the waves, it hides its one or two heavily spotted eggs. These are large for the size of the bird, being three inches in length and nearly two inches wide. When the young have attained sufficient size they are conducted to the water, there to spend the most of their lives, except when they in turn come to the rocks to raise little Auks. It is said that if the young are slow about taking to the water the parents pick them up by the back of the neck and carry them down to the tumbling waves, which in their little hearts the baby birds have feared to face.

Auks are wonderful divers, and appear to secure their living chiefly by swimming beneath the surface to secure various forms of marine life. In winter they drift southward along the coast to regions where ice is not so abundant. At this season they are seen in the ocean as far south as Long Island, and a few have even been found off the North Carolina beaches.

Herring Gull

Larus argentatus *Pontoppidan*

A. O. U. Number 51

Other Names.—Common Gull; Harbor Gull; Sea Gull; Lake Gull; Winter Gull.
General Description.—Length, 24 inches. Color, pure white with grayish-blue mantle.

Nests and Eggs.—Nest: Sometimes on the ground, occasionally in trees; ground nests usually mere depressions with scant nesting material; tree nests bulky and well constructed of strongly interwoven grass and moss. Eggs: 3, light bluish or greenish-white to dark olive-brown, irregularly blotched, spotted, and scrawled with dark brown and black.

Distribution.—Northern hemisphere; in America breeds from south-central Alaska, across British America to Cumberland Sound, south to British Columbia, across the United States on about the parrallel 43° to Maine, and in Europe south to northern France and east to White Sea; winters from northern border of United States southward to Lower California and western Mexico, and from Gulf of St. Lawrence and the Great Lakes south to the Bahamas, Cuba, Yucatan, and coast of Texas, and in Europe to Mediterranean and Caspian seas.

The large Gulls so constantly seen along our coast and about the lakes and larger rivers are the Herring Gulls. The so-called "Gray Gull" that is usually with the white ones is not a different species, but merely is the young Herring Gull of the year. As the Gulls fly about they are looking for pieces of food thrown into the water, or for dead fish floating on the surface or washed ashore. Sometimes they eat clams, and in order to break the shells they carry them high in the air and drop them on the hard beach.

The Herring Gulls build their nests on islands in the northern lakes, and on lonely islands along the coast from Massachusetts northward. About 200,000 raise their young every summer on the rocky islands in the Atlantic Ocean off the coast of Maine. They are found as far north and west as Alaska. Often the nests are very strong structures of twigs and grasses. As a rule, these are placed on the ground, but in places where the birds have been much disturbed by enemies, or when the ground of the island becomes much crowded with nests, some of them will make their large cradles in trees, from ten to thirty feet from the ground.

Laughing Gull

Larus atricilla *Linnæus*

A. O. U. Number 58

Other Name.—Black-headed Gull.

General Description.—Length, 16 inches. Color, white with dark slate-gray mantle and almost black hood.

Nest and Eggs.—Nest: On the ground in marshes; constructed of seaweed, sedges, and eelgrass. Eggs: 2 to 5, from dull grayish to dark olive, heavily marked with spots and splashes of brown, black, chestnut, and lavender.

Distribution.—Tropical and temperate coasts of North America; breeds from Maine (rarely) and Massachusetts (abundantly but local) south on the Atlantic and Gulf coasts to Texas, the Lesser Antilles, and Venezuela; winters from Georgia and Gulf coast south to western Mexico, Chile, and Brazil; casual in Colorado, Nebraska, Wisconsin, Ontario, and Iowa.

Unlike most of the Gulls in the United States, the Laughing, or Black-headed, Gull is rarely if ever seen about fresh water. It is distinctly a

Courtesy of Outing Publishing Co.

LAUGHING GULLS

From a photograph by H. K. Job

bird of the sea coast. Its loud, rapidly repeated notes of "ha, ha, ha, ha!" suggest human laughter, from which fact it acquired its name. In the months of May, June, and July these Gulls come together in colonies to build their nests and rear their young. On the coast of Maine the nests are built on the ground in high grass.

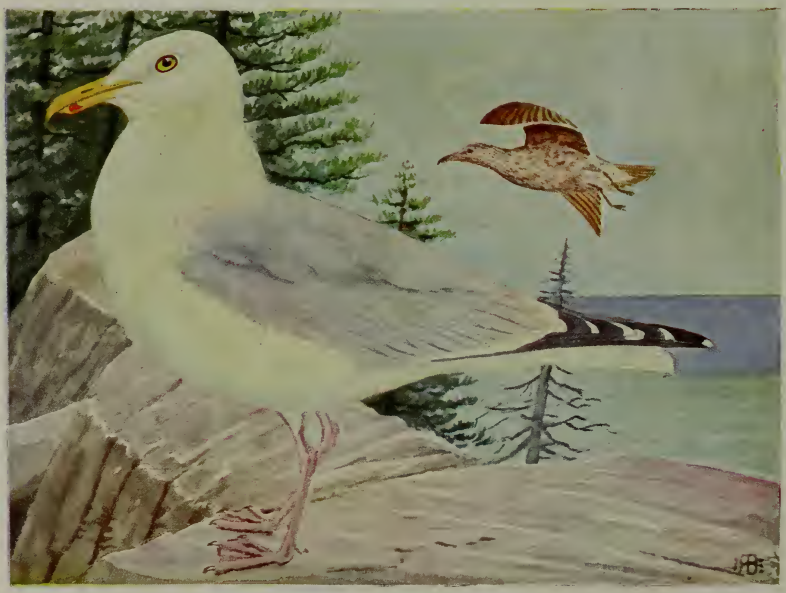
From New Jersey southward to Florida they usually select salt marshes, generally those connected with islands. If from the "crow's nest" of a vessel one should look out over a marsh inhabited by Laughing Gulls, the sitting birds would appear as numerous white spots scattered over the brown expanse of salt grass.

PIED-BILLED GREBE (1/6 nat. size)

LOON (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER

RAZOR-BILLED AUK (1/6 nat. size)



HERRING GULL (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER

DOUBLE-CRESTED CORMORANT (1/6 nat. size)

BROWN PELICAN (1/12 nat. size)

FROM DRAWINGS BY R. I. BRASHER

WILSON'S TERN (1/5 nat. size)

LEACH'S PETREL (1/3 nat. size)

FROM DRAWINGS BY R. I. BRASHER

The nests of grass and sea-weeds are placed well above the reach of high tides. One enemy of these little Gulls is the Fish Crow. This nest-robber is ever on the lookout for unguarded eggs, and sticking his bill through them carries them away one at a time. Laughing Gulls were killed so extensively for their feathers some years ago that their numbers have been greatly reduced.

Common Tern

Sterna hirundo *Linnæus*

A. O. U. Number 70

Other Names.—Sea Swallow; Wilson's Tern; Summer Gull; Mackerel Gull; Lake Erie Gull; Bass-gull; Red-shank; High Diver.

General Description.—Length, 15 inches. Color, white with mantle of pale pearl-blue.

Nest and Eggs.—Nest: A hollow in the sand; composed of a few bits of grass and dry seaweed. Eggs: 3, greenish-white to deep brown, spotted and blotched with brown, black, and lavender.

Distribution.—Northern hemisphere, northern South America, and Africa; breeds from Great Slave Lake, central Keewatin, and southern Ungava south to sou hwestern Saskatchewan, northern North Dakota, southern Wisconsin, northern Ohio and North Carolina; winters from Florida southward to Brazil; casual in migration on Pacific coast from British Columbia to Lower California. In eastern hemisphere, breeds in Europe and Asia and winters in India and Africa.

On numerous rocky islands along the Atlantic coast from Long Island to Maine, the Wilson's, or Common, Terns gather in large numbers each summer.

On many sandy islands from Long Island to Florida the same great assembling of Terns takes place. It is indeed an experience to visit one of these places, where on an area not exceeding an acre or two in extent perhaps three thousand Terns have their nests and young. Alarmed by your near approach, they rise from the ground, and with cries of alarm and savage resentment circle and swoop through the air above your head. There is one swish after another as the bolder members of the throng strike down within a few feet of your head.

The three or four heavily spotted eggs are laid in a very slight nest on the ground, and so thickly are the nests clustered that it is often difficult to walk without stepping on one of them. Crabs at times kill the young just as they are emerging from their shells. Sometimes thoughtless people leave cats on the sea-bird islands, and in some cases these abandoned pets have nearly exterminated colonies of Terns by catching and eating both the young and old birds. Terns feed largely on small fish which exist in the ocean by myriads, and which serve as food for so many of the feathered wanderers by the sea.

Leach's Petrel

Oceanodroma leucorhoa (*Vieillot*)

A. O. U. Number 106

Other Names.—Common Fork-tailed Petrel; Leach's Fork-tailed Petrel; White-rumped Petrel.

General Description.—Length, 8 inches. Color, brownish-black. Legs, short; tail, forked, outer feathers more than ½ inch longer than middle pair.

Nest and Eggs.—Nest: In burrows on the ground. Eggs: Single, white, unmarked, or wreathed with fine light red spots around the larger end.

Distribution.—Both coasts of North America; breeds from the Aleutian and Copper islands, Bering Sea, south to Sitka, and from southern Greenland south to Maine and the Hebrides; casual in migration south to Virginia.

Many species of Petrels are found on the oceans of the world. In general they are known to sea-going folks as "Stormy Petrels" and "Mother Cary's Chickens." From their habit of flying low over the waves with feet hanging down as though walking, they were named Petrels, for Peter of old, who is said to have walked on the water.

The only member of this family to nest on the Atlantic coast of North America is the Leach's Petrel. On many islands off the rocky coast of Maine, and northward, they assemble from early May until September, for their nesting duties. In the soft ground little burrows are dug about a foot and a half in length. The entrance is often under some old root, or even a stick lying on the ground, and the end is only a few inches beneath the surface. One white egg is laid which possesses the musty odor so peculiar to this bird.

About the nests the birds are nocturnal. The traveler may visit a small island, where hundreds of them are nesting, and never suspect that even one Petrel is present. They become active at dark, and the night air is soon filled with their curious little crooning cries. These notes are exchanged between the bird guarding the eggs and its mate, that perhaps has been flying all day about the ocean.

Double-Crested Cormorant

Phalacrocorax auritus auritus (*Lesson*)

A. O. U. Number 120

Other Names.—Crow Duck; Shag; Water-Turkey; Lawyer; Nigger Goose.

General Description.—Length, 33 inches. Prevailing color, greenish-black. *Throat sac, convex behind.*

Nest and Eggs.—Nest: On the ground; constructed of twigs and weeds; sometimes on ledges of sea islands where built of fresh seaweed and kelp. Eggs: 2 to 4, bluish-green with white chalky incrustation.

Distribution.—Eastern North America; breeds from central Saskatchewan, southern Keewatin, northeastern Quebec and Newfoundland south to northern Utah, South

Dakota, southern Minnesota, and Penobscot Bay, Maine. Winters from North Carolina (casually Massachusetts) south to the Gulf coast; casual in Bermuda.

THERE are about forty species of Cormorants scattered over the world. They are large black or dark-brown birds and live about lakes, rivers, and along the sea-coast. They feed on fish that they procure by pursuing them under water and capturing them with their sharply hooked beaks.

In China, Cormorants are tamed and trained to bring the fish they catch to the boat of their owner.

The Double-crested Cormorant is found in summer from Maine northward, where they lay their three or four white eggs in nests on rocky cliffs. From North Carolina southward is found the Florida Cormorant, which closely resembles the Double-crested. These birds build their nests in trees. About one hundred and fifty pairs of them have nested in a small clump of cypress trees in Great Lake, North Carolina, for many years. Here they capture and feed to their young great numbers of small eels. The nests are strong, heavy affairs, and as twenty or thirty will sometimes be built in one tree, it is easy to see them at a considerable distance. The young at first are naked and look like awkward black rubber birds. In a few days, however, they become covered with a soft velvety coating of down, which they wear until the feathers appear. A common name for the Cormorant is "Nigger Goose."

BROWN PELICAN

PELECANUS OCCIDENTALIS *Linnæus*

A. O. U. Number 126

OTHER NAME.—Common Pelican (of Florida).

GENERAL DESCRIPTION.—Length, 4¼ feet; spread of wings, 6½ feet. General color, brown, darker above. Bill with pouch hanging from under side.

NEST AND EGGS.—Nest: In rookeries, on shores or marshy islands, usually on the ground or sometimes in low mangrove bushes; constructed of sticks, coarse grass, and weed stalks and lined with finer grasses. Eggs: 2 to 3, chalky-white.

DISTRIBUTION.—Gulf coast of United States and Atlantic coast of United States and Atlantic coast of Central and South America; breeds from Florida and Louisiana south to Brazil; rare in North Carolina; accidental in Wyoming, Nebraska, Iowa, Illinois, Indiana, Massachusetts, and Nova Scotia. Replaced on the Pacific Coast by a close relative, the California Brown Pelican.

THE largest bird found commonly along our southern coasts is the Brown Pelican. It is four or more feet in length and has a bill a foot long. When the Pelican goes fishing it flies along over the ocean until it sees a fish it wants, and then turning down suddenly it plunges head first into the water and seizes its prey in its great pouch. Although they eat large quantities of fish, careful study has shown that thev take very few of the

kinds that are eaten by mankind. About some of the southern towns that are situated on the sea-coast these great birds become very tame, and will perch on wharves, or on boats riding at anchor in the harbor. They are always eager for fish-heads or other food thrown to them.

Brown Pelicans come together in large numbers to lay their white eggs and raise their young on small islands. There are thirty of these

Courtesy of the National Association of Audubon Societies

BROWN PELICANS ON EAST TIMBALIER RESERVATION, LOUISIANA

FROM A PHOTOGRAPH BY H. K. JOB

Pelican cities along the South Atlantic and Gulf coasts, between South Carolina and Mexico, and the combined population in the summer of 1918 was about 70,000. Many others are found along the California coast. The young are noisy when in the nest, but when grown they become absolutely silent and appear to have no voice.

MALLARD DUCK

ANAS PLATYRHYNCHOS *Linnæus*

A. O. U. Number 132

OTHER NAMES.—Common Wild Duck; Stock Duck; English Duck; French Duck; Irish Mallard; Green-head (male); Gray Duck (female); Gray Mallard (female).

General Description.—Length, 22 to 24 inches. Color of male: head, green; back, grayish-brown; under parts, gray with purplish-chestnut breast. Color of female: dusky-brown, and tawn, variegated and lighter below than above.

Nests and Eggs.—Nest: On the ground in a tussock of grass or weeds; built of fine reeds, grass, or leaves; well lined with down. Eggs: 6 to 10, pale olive or buffy-green.

Distribution.—Northern hemisphere; in North America breeds from Pribilof Islands and northwestern Alaska across British America to Greenland, south to Lower California and across the United States on about the parallel of 37°; winters from Aleutian Islands, Montana, Wyoming, Nebraska, southern Wisconsin, Ohio, Maryland, and Nova Scotia (rarely) south to Mexico, the Lesser Antilles, and Panama; casual in Bermuda and Hawaii.

The Mallard is one of the best known of all the forty-three kinds of wild Ducks found in North America. Its flesh is much esteemed as food, so every autumn when the great flocks begin to go south from their breeding grounds in the north there are many hunters waiting to shoot them. "Green-head" is one of their popular names, doubtless because the head of the male bird is bright green. Mallards do not belong to any group of song birds, and you would hardly expect a Duck to sing anyway. However, they can quack, and often do so to such an astonishing extent that it would seem that they were trying to sing in the Duck language.

When a mother Mallard gets ready to lay her eggs she scratches a slight hollow in the prairie, sometimes quite a distance from the water, and lines it with the soft downy feathers she picks from her own breast. In this warm bed she lays her ten or twelve light grayish eggs. When sitting on these she will allow one almost to step on her at times before taking wing. Most surely she must know that the color of her back blends with the color of the surrounding grass so perfectly that she is in little danger of being seen by any enemy that may chance to pass near. Many of our tame ducks are descendants from the wild Mallard Duck.

Eider Duck

Somateria dresseri *Sharpe*

A. O. U. Number 160

Other Names.—American Eider; Common Eider; Eider Duck; Dresser's Eider; Drake (male); Sea Duck (female); Black and White Coot (male); Isle of Shoals Duck; Squam Duck; Wamp; Canvas-back.

Description.—Length, 24 inches. Males are white above, and black below; females are pale rufous-brown, variegated with darker. This Eider differs from the Northern Eider in shape of bill; in latter base of bill extends along each side of forehead between the narrow pointed extension of crown feathers, this lateral extension being very narrow and ending in a point, whereas in the Eider the processes are more than twice as broad with obtuse rounded ends; the sides of head are more extensively greenish but otherwise coloration is similar.

Nests and Eggs.—Nest: On ground, in grass, in crevices between rocks, or in any sheltered locality; made of moss, seaweed, and lichens and lined with gray down from

breast of the bird, the lining being added gradually during the month of incubation. Eggs: 6 to 10, usually 6, plain dull greenish-drab.

DISTRIBUTION.—Northeastern North America; breeds from southern Ungava and Newfoundland, on the southern half of Hudson Bay to southeastern Maine; winters from Newfoundland and Gulf of St. Lawrence south on Atlantic coast to Massachusetts, rarely to Virginia, and in interior rarely to Colorado, Iowa, Wisconsin, Ohio, and western New York.

THREE species of Eider Ducks are found along the northern parts of our Atlantic coast. They are all large Ducks and the males have very handsomely colored heads. "Eider down" is chiefly collected by taking from the nests the soft feathers which surround and often cover them. These have been plucked by the old birds from their breasts and bellies.

In parts of Greenland and Iceland the gathering of eider down for the market is an industry of some importance. In summer the American Eiders are found in small numbers along the coast of Maine. On the little rocky islands they come ashore to make their nests. The Audubon Society has hired wardens to protect them, and in 1919 the birds numbered about two hundred. The nests are hidden among the rocks, and are protected from view by clusters of grass weeds or bushes. Usually about six eggs are laid. These are pale green in color. Unless they are carefully guarded, fishermen and lobstermen will often land on the islands and take the eggs for food.

Eiders feed chiefly on mussels that grow on the rocks or sunken ledges in the sea. To get them they have to dive often to considerable depth. Except when engaged in nesting, Eiders are usually found well out to sea.

CANADA GOOSE

BRANTA CANADENSIS CANADENSIS (*Linnæus*)

A. O. U. Number 172

OTHER NAMES.—Wild Goose; Common Wild Goose; Cravat Goose; Big Gray Goose; Bay Goose; Reef Goose; Black-headed Goose; Canada Brant; Honker; Long-necked Goose; French Goose; Ring-neck.

GENERAL DESCRIPTION.—Length, 35 to 43 inches. Head, black; body brownish-gray. Neck, long and slender.

NEST AND EGGS.—Nest: Usually on a mound in marshes; constructed of grass, reeds, and leaves and lined with down; rarely old nests of Hawks or Eagles are appropriated. Eggs: 6 to 7, dull white.

DISTRIBUTION.—North America; breeds from limit of trees in valley of the lower Yukon, northwestern Mackenzie, and central Keewatin south to southern Oregon, northern Colorado, Nebraska, and Indiana; formerly bred casually south to New Mexico, Kansas, Tennessee, and Massachusetts; winters from southern British Columbia, southern Colorado, southern Wisconsin, southern Illinois, and New Jersey (rarely southern Ontario and Newfoundland) south to southern California, Texas, and Florida; accidental in Bermuda and Jamaica.

From the end of its bill to the tip of its tail a well-grown Canada Goose measures four feet, which means that this is quite a large bird. When a flock of Robins flies over a town a thousand feet from the earth no one notices them, but when on a still morning a V-shaped flock of wild Geese goes over, their trumpeting "honks" are sure to cause many eyes to turn skyward. If this be in autumn, the great birds may be bound southward for their feeding grounds along the coasts of the Carolinas or the marshes of far distant Louisiana. If the time be early spring, then surely the big fellows and their mates are headed for their nesting grounds, perhaps in Minnesota, or maybe the tundra country that lies along the Arctic Circle.

Many gunners seek to shoot the Canada Geese while they are with us, but the birds are very wise, and few are killed. Their nests are found at various places in the great northwest. They are placed on the ground, and like wild Ducks' nests, are lined with downy feathers. While caring for their young, old Geese are unable to fly, for it is at that season that they molt their large wing-feathers.

White Ibis

Guara alba (*Linnæus*)

A. O. U. Number 184

Other Names.—Spanish Curlew, Stone Curlew (young); White Curlew.

General Description.—Length, 26 inches. Plumage, pure white, with tips of several outer wing-feathers black.

Nests and Eggs.—Nest: Usually in mangrove thicket; constructed from twigs of those bushes. Eggs: 3 to 5, grayish-blue or whitish, blotched and spotted with dull yellow, rufous and umber-brown.

Distribution.—North and South America, from Lower California, Texas, and South Carolina south to West Indies, Brazil, and Peru, and casually to Great Salt Lake, South Dakota, Illinois, Vermont, Connecticut, and Long Island; winters from Gulf of Mexico southward.

This is one of the wading birds of the southern marsh lands. They are generally found in flocks of from eight to ten to several hundred. In searching for crawfish and water insects they wade about in the shallow water, and probe along the bottom with their long curved bills. It is a beautiful sight to watch a flock of them on the wing. The feathers are pure white, with the exception of the black on the tip of the wings; and in flying they proceed by alternately sailing and flapping their wings.

White Ibises come together by hundreds, or even by thousands, at some favorite nesting place in the spring. Here as a rule they are associated with a variety of Herons that have assembled for a like purpose. Such a place makes indeed a "City of the Longlegs." In the rude but substantial nests of sticks, usually placed in trees or bushes over water,

the four or five chocolate-spotted eggs are laid. The young have much brown in their plumage, and do not acquire the coat of white feathers until at least two years of age.

Egret

Herodias egretta (*Gmelin*)

A. O. U. Number 196

Other Names.—American Egret; White Heron; White Egret; Great Egret; Great White Egret; Great White Heron; Long White; White Crane.

Description.—Length, 41 inches. No crest, but a magnificent train of long plumes springing from back and extending beyond tail in breeding season; *plumage entirely white;* bill, yellow; legs and feet, black; lores and iris, yellow.

Nest and Eggs.—Nest: Merely a platform of sticks in mangroves or in trees. Eggs: 3 to 5, plain bluish-green.

Distribution.—Temperate and tropical America; breeds in Oregon and California, and from North Carolina, Flordia, the Gulf Coast, and Mexico south to Patagonia; formerly bred north to New Jersey and Wisconsin; winters from the Gulf of Mexico southward; casual in Manitoba, Quebec, New England, and Nova Scotia.

The Egret is a bird whose plumage is of the purest white. It has a long neck and long legs like a Crane, and lives in the swamps and marshes of the South. As it wades about in the shallow water it finds many good things to eat. Here is a list of some of them: snakes, frogs, fish, and a great variety of water insects. When spring comes the Egrets over a large area of country come together in some deep cypress, or buttonwood, or willow swamp, and build their nests in the trees high above the water. From three to five blue eggs are laid, which in time hatch out baby Egrets, if trouble does not come their way.

In the nesting season Egrets grow on their backs a cluster of about fifty beautiful long white plumes called "aigrettes." Many fashionable women will pay high prices for these plumes to wear in their hats. As a result, the Egrets in the United States have nearly all been killed for their plumes. The feathers from one bird are worth twenty-five or thirty dollars. The Audubon Society has been able to get laws passed against killing these birds, and every year the society hires men to live in the swamps to protect from hunters the few remaining colonies of nesting Egrets now found in our Southland.

Green Heron

Butorides virescens virescens (*Linnæus*)

A. O. U. Number 201

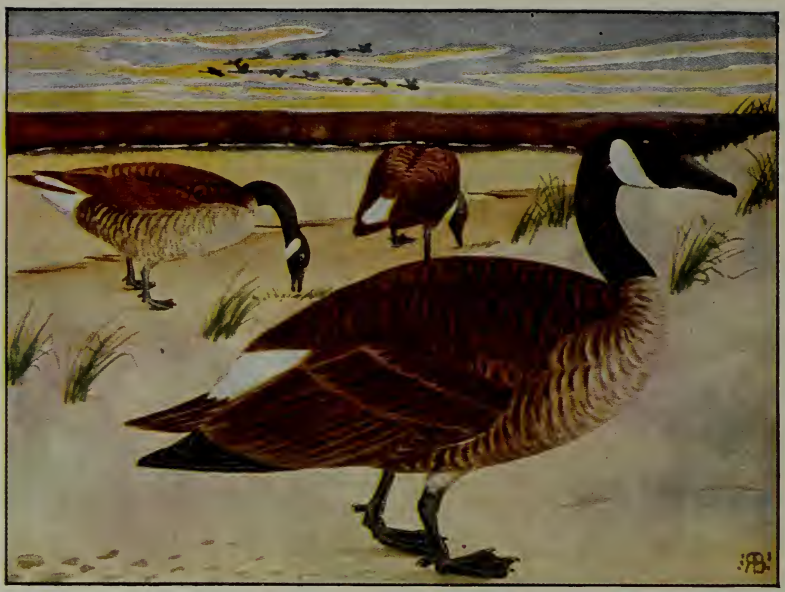
Other Names.—Little Green Heron; Green Bittern; Fly-up-the-creek.

General Description.—Length, 18 inches. Color above, dark green; below, dark brown.

MALLARD DUCK (1/6 nat. size)

EIDER DUCK (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER



CANADA GOOSE (1/12 nat. size)

WHITE IBIS (1/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

EGRET (1/12 nat. size)

GREEN HERON (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER

BLACK-CROWNED NIGHT HERON (1/6 nat. size)

SANDHILL CRANE (1/12 nat. size)

FROM DRAWINGS BY R. I. BRASHER

NEST AND EGGS.—Nests: Frequently in the woods but usually near water; a frail platform of twigs in a tree or bush. Eggs: 3 to 6, pale greenish.

DISTRIBUTION.—Eastern North America; breeds from southern South Dakota, northern Wisconsin, southern Ontario, southern Quebec, and Nova Scotia south to the West Indies; winters from the West Indies southward, and rarely in southeastern United States; casual in Colorado.

STREAMS and millponds with wooded shores are the favorite haunts of the Little Green Heron. In the shallow water along the margins they watch for their prey, sometimes from a low overhanging branch, but more often as they wade cautiously about on their stilt-like legs. Startle one and with a sharp cry of "*Scow, scow!*" it will fly to a place of safety, where with raised neck feathers and jerking tail it watches for a short time your nearer approach.

The eggs are laid in a nest which for looseness of construction is not equaled by many other birds. Often you can count the eggs through the nest from below. Green Herons do not feed in flocks like many other Herons, but sometimes assemble in little communities of from six to a dozen pairs, when egg-laying time comes. The nests may be found in trees or bushes near water, or even over it; and again a nesting colony will be discovered in an apple orchard well away from any open water. They fly about at night from place to place, perhaps as much as in the daytime, and their hoarse calls when passing overhead are known to most boys who live in the country. Green Herons go south of the United States to pass the winter months.

BLACK-CROWNED NIGHT HERON

NYCTICORAX NYCTICORAX NÆVIUS (*Boddaert*)

A. O. U. Number 202

OTHER NAMES.—Night Heron; American Night Heron; Qua-bird; Quawk; Squawk; Gardenian Heron.

GENERAL DESCRIPTION.—Length, 26 inches. Color above, black and ashy-gray; below, white. Head crested and, in breeding plumage, with a few long white cord-like plumes from back of crown.

NEST AND EGGS.—Nest: In trees, bushes, or on ground; a large but loosely constructed affair of branches and twigs. Eggs: 3 to 6, pale seagreen.

DISTRIBUTION.—North and South America; breeds from northern Oregon, southern Wyoming, southern Manitoba, northern Quebec, and Nova Scotia south to Patagonia; winters from northern California and Gulf States southward; casual in winter north to Massachusetts and southern Illinois.

THE common name for this bird is "Quawk." It is called this by many people because of its cry, the sound of which suggests this word. As the book name implies, it is a bird of the night. It is seldom seen abroad in the daytime, except during the nesting season, when it appears to be

necessary for it to hunt both day and night to secure food for its ever-clamoring young.

Night Herons nest in colonies, sometimes with other species of Herons, but more often perhaps by themselves. Several hundred pairs frequently are found breeding together in some swamp or other secluded spot. Their coarse nests of sticks which support the four or five pale blue eggs are built on the limbs high up from the ground. In the Western States the birds often make their nests in tall rushes about the margins of lakes.

Along the coast Night Herons are fond of coming to the sand-bars and mud-flats exposed to low tide. Here they capture marine worms, stranded fish and other life that abounds in such situations. Sometimes one will catch an eel, and its companions will chase it through the air, trying to take from it the coveted prize.

Sandhill Crane

Grus mexicana (*Müller*)

A. O. U. Number 206

Other Names.—Brown Crane; Upland Crane; Field Crane; Southern Sandhill Crane.

General Description.—Length, 4 feet; spread of wings, 6½ feet. Plumage, slaty-gray. Head *with bare spot forking behind*, not reaching on sides below eyes, and thinly sprinkled with hair.

Nests and Eggs.— Nest: On the ground, usually on a slight knoll or open grassy flats; generally a mere depression in the ground, lined with dry grass and weed stems. Eggs: 2, from pale olive to buffy-brown, marked over entire surface with spots of burnt-umber.

Distribution.—North America; resident in Louisiana and Florida; bred formerly from southern British Columbia, Saskatchewan, Manitoba, and western Ontario south to California, Colorado, Nebraska, Illinois, and Ohio; formerly in migration east to New England; now rare east of the Mississippi, except in Florida, and rare as a breeder in the southern half of its former breeding range; winters from California, Texas, and Louisiana south to Mexico.

On the open savannahs of the South and about the shallow ponds of the Northwestern prairies the Sandhill Crane is found. It is a tall gray bird; and, living in flat countries as it does, it usually sees a hunter before the hunter is aware of its presence. The Crane not only eats water insects, frogs and other such creatures found about ponds and sloughs, but will often walk about in the open pine woods, where it is said at times to eat acorns.

The loud trumpeting cries of the Sandhill Crane are often heard in regions where the birds occur. They are extremely noisy and will waken the camper at the first streak of dawn. They seem not to understand the meaning of a tent, and sometimes two of them will stand and look at it and shout until all sleep forsakes the tired traveler within.

The nest is a large affair of grass and rushes, usually placed in shallow ponds. It is flat, and the top is but a few inches above the water. Two spotted eggs are laid. So many of the birds have been killed for food that to-day they are rare in many places where but a few years ago they were numerous.

Clapper Rail

Rallus crepitans crepitans *Gmelin*

A. O. U. Number 211

Other Names.—Common Clapper; Marsh Clapper; Mud Hen; Sedge Hen; Meadow Hen; Salt-water Marsh Hen.

General Description.—Length, 16 inches. Color above, brownish-gray; below, lighter. Forehead entirely feathered down to base of bill; bill, long and slender.

Nests and Eggs.—Nest: A platform of dead reeds and grasses on the ground in meadows. Eggs: 6 to 15, white to buff, dotted and blotched with chestnut and some lavender.

Distribution.—Salt marshes of the Atlantic coast; breeds from Connecticut to North Carolina; winters mainly south of New Jersey; casual north to Maine; local on Pacific coast.

In the salt water marshes live the Clapper Rails. All along our eastern coast from Connecticut to Mexico they are found, and are especially numerous from Virginia southward. They are plentiful, also, in suitable localities along the Pacific coast. On a visit to a salt marsh one may be impressed with the Marsh Wrens that sing in and above its tallest growths, or by the Great Blue Heron wading in the flats, or even by Gulls that fly along over the winding creeks, but the Clapper Rail one may not see.

It shows a marvelous facility for keeping out of sight. Usually it is observed only when, as one lies quietly in his boat, the bird chances to walk out in some open place. At the first sign of danger it disappears. Hunt as you will in a region where their cries are reverberating on every hand, and the chances are you will not discover one of them. The Clapper Rails have pathways that cross and recross in every direction. These are often arched over by the tall grass in such manner that birds running along them are entirely hidden from view. When the tides are high and their runways covered by water, gunners can induce them to fly by pushing their boats through the flooded marshes. The birds are shot as they rise on the wing in an attempt to escape.

Sora Rail

Porzana carolina (*Linnæus*)

A. O. U. Number 214

Other Names.—Carolina Rail; Common Rail; Soree; Meadow Chicken; Carolina Crake; Little American Water Hen; Chicken-billed Rail; Chicken-bill; Railbird; Ortolan; Mud Hen; Ricefield Rail.

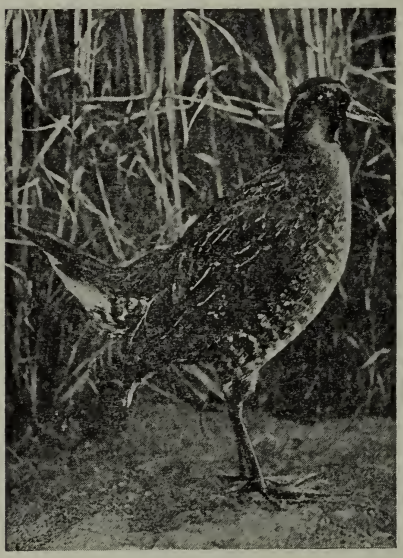
General Description—Length, 9 inches. Color above, olive-brown; below, gray. *Bill short and stout;* forehead entirely feathered down to base of bill.

Nest and Eggs.—Nest: On the ground in meadows; a carelessly constructed affair of grass and weeds. Eggs: 7 to 13, more rarely 16, pronounced drab, spotted with chestnut and lavender over entire surface.

Distribution.—North America; breeds from central British Columbia, southern Mackenzie, central Keewatin, and Gulf of St Lawrence south to southern California, Utah, Colorado, Kansas, Illinois, and New Jersey; winters from northern California, Illinois, and South Carolina through the West Indies and Central America to Venezuela and Peru; accidental in Bermuda, Greenland, and England.

The Sora belongs to a family of marsh-loving birds known as Rails, and like all the members of its family is very skillful in keeping out of sight. The bird student may walk all around a marsh in which a hundred Soras are living and never see or hear one. They are by no means voiceless, but their cries and sharp clucks are usually withheld until evening. About sunset the marsh may resound with their notes from every quarter, and still no bird appears. Should the student enter a canoe or small boat and push out in the midst of the high marsh grass he may perchance have the good fortune to flush one of these secretive little Rails. It rises slowly, and flies away as if with great effort, only to drop out of sight again after going a short distance.

Courtesy of American Museum of Natural History



SORA RAIL

In the marshes of the coast country of Virginia and the Carolinas, Soras are shot for food when they appear in the autumn. They have a curious habit of disappearing over night from a region where the day before they were very abundant. Especially do they thus disappear the night of the first sharp frost, for they dislike cold weather. Many ignorant people think that when the frost comes Soras turn into frogs and hide in the mud until the spring.

Florida Gallinule

Gallinula galeata (*Lichtenstein*)

A. O. U. Number 219

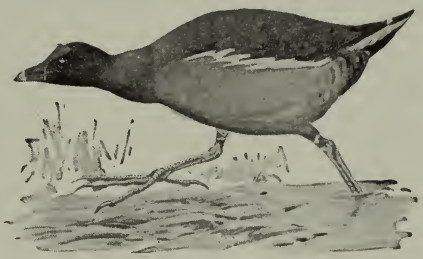
Other Names.—American Gallinule; Common Gallinule; Red-billed Mud Hen; Water Hen; Water Chicken.

General Description.—Length, 14 inches. Prevailing color, blackish. Forehead covered by naked shield at base of bill; toes slender and without lobes; bill slender, sharp, and nearly as long as head.

Nests and Eggs.—Nest: In the marshes; constructed of dry reeds; often placed on a buoyant platform of the same material, capable of rising and falling with the water; in some places it is built on dry parts of the meadow. Eggs: 6 to 12, buffy-white, rather sparsely spotted with brown.

Distribution.—Tropical and temperate America; breeds from central California, Arizona, Nebraska, Minnesota, Ontario, New York, and Vermont south through the West Indies and Mexico to Chile and Argentina, and in the Galapagos and Bermuda; winters from southern California, Arizona, Texas, and Georgia southward; casual in Colorado, Quebec, Nova Scotia, New Brunswick, and Maine.

The Florida Gallinule is by no means confined to Florida, as its name might imply. Indeed, the bird is found over a wide area of country, including New York, Arizona, the West Indies, and down through Mexico and on southward to Chile. In the rice-fields of South Carolina they are very plentiful, and may often be seen running across the roads as one drives about the plantations. These birds live about marshes, especially those that have bushes growing in them. They are half swimmers and half waders. At times they wade along the shores like Herons, and again are seen swimming among lily-pads. They sometimes walk over these floating raft-like leaves in regions where the water lily leaves grow large. The Gallinule's toes are very long, and so make it possible for the bird to do this.



FLORIDA GALLINULE

From a drawing by R. I. Brasher

Gallinules look and act somewhat like chickens, and in Europe their near relatives are called Moor-hens, or Water-hens. Sometimes flocks or families of them will come ashore and squat, or even lie down and pick and sun themselves, much as chickens do in the barn-yard. Many "clucks" and other loud calls may be heard coming from a marsh where the Gallinules live. The nest is hidden in the rushes in or near the water.

Woodcock

Philohela minor (*Gmelin*)

A. O. U. Number 228

Other Names.—American Woodcock; Wood-hen; Big-headed Snipe; Big Mud Snipe; Blind Snipe; Whistling Snipe; Wood Snipe; Night Partridge; Night Peck; Timber Doodle; Hookum Pake; Labrador Twister; Bogsucker; Bog-bird; Pewee; Whistler; Bigeyes.

General Description.—Length, 11 inches; color above, brown; below, pale orange-brown; head, large; neck short; eyes large and set far back and high; bill very long and compressed, the lower section shorter than the upper into which it fits at the tip, and the upper section capable of being flexed like a finger; wings, short and rounded; three outer primaries, scythe-shaped; legs, short and stout with thighs feathered; toes, without webs.

Nest and Eggs.—Nest: On ground, on brushy bottoms or in open woods, usually not far from water; a depression in the leaves without lining. Eggs: 3 or 4, buffy to grayish-white, irregularly and thickly spotted with pale reddish-brown.

Distribution.—Eastern North America; breeds from northeastern North Dakota, southern Manitoba, northern Michigan, southern Quebec, and Nova Scotia south to southern Kansas, southern Louisiana, and northern Florida; winters from southern Missouri, the Ohio valley, and New Jersey (rarely Massachusetts) south to Texas and southern Florida; ranges casually to Saskatchewan, Keewatin, Colorado, Newfoundland, and Bermuda.

The Woodcock is an inhabitant of shaded bogs and marshy swamplands. Here in the soft earth it probes for its food of worms and soft-bodied insects. The bird's head is adorned with a slender bill nearly three inches in length, and so sensitive at its tip that its owner is able to tell when it has found a worm in the mud. The Woodcock's large eyes are placed well up toward the top of its head, and the bird is thus able to note the approach of an enemy, should one appear when it is feeding. Anyone acquainted with the habits of this denizen of the shadows is able to tell upon entering a swamp if the birds are about. Where the Woodcock has been feeding numerous small round holes are left in the soft earth.

When frightened it rises quickly on the wing, but soon drops again into cover. Because of the difficulty of shooting it, and because of the excellency of its flesh when cooked, the Woodcock has long been a great favorite with gunners.

The nest of this species is made on the ground. It is only a slight hollow, scratched in the earth, and is usually among a growth of young trees. It is lined with leaves, and in it are laid four very handsomely spotted eggs. When sitting on its nest the Woodcock is almost invisible. So closely do the feathers of its head and back resemble the dead leaves about it, that keen indeed must be the eye that can discover the Woodcock while it remains motionless.

WOODCOCK (1/2 nat. size)

BOB WHITE (2/5 nat. size)

FROM DRAWINGS BY EDMUND J. SAWYER

SPOTTED SANDPIPER (1/2 nat. size)

RUFFED GROUSE (1/4 nat. size)

FROM DRAWINGS BY EDMUND J. SAWYER

TURKEY VULTURE (1/12 nat. size)

BLACK VULTURE (1/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

WILD TURKEY (1/12 nat. size)

MOURNING DOVE (3/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

Spotted Sandpiper

Actitis macularia (*Linnæus*)

A. O. U. Number 263

Other Names.—Peep; Peetweet; Teeter-peep; Teeter-tail; Teeterer; Tip-up; Tilt-up; Sand Lark; See-saw; Sand-peep; Sand Snipe; River Snipe; Bow Snipe; Bowing-bird.

General Description.—Length, 7 inches. Color above, ashy-olive; under parts pure white, unspotted in winter, but in summer with round black spots. Bill straight, slender and about as long as head; outer and middle toes, webbed at base; inner toes, free; tail, rounded and half as long as wing. This is the only Sandpiper which has large and distinct spots on its under parts; it nearly always teeters when alarmed; and in flight shows a white line on the wings. Found most often near streams and ponds.

Nest and Eggs.—Nest: A depression in the ground in the vicinity of water; rather well constructed of grass, leaves, and weed stems. Eggs: 4, creamy, buffy, or grayish, blotched with blackish and purplish-gray.

Distribution.—North and South America; breeds from tree limit in northwestern Alaska, northern Mackenzie, central Keewatin, northern Ungava, and Newfoundland south to southern California, Arizona, southern Texas, southern Louisiana, and northern South Carolina; winters from California, Louisiana, and South Carolina to southern Brazil and central Peru; straggles to Great Britain and Helgoland.

The best known of all our shore birds is the Spotted Sandpiper. Its home is along the shores of both fresh and salt water; and about many of the interior ponds and streams it is especially numerous. When one catches sight of the bird it may be running over the rocks close to the margin. Presently it stops and bobs and bows and looks about. "Tip-up," many boys have named it. When forced to fly it darts out over the water, and after a few jerky wing-beats it sails onward close to the water in a curving line back to the shore again. The note it is most usually heard to utter is a sharp "weet," or "tweet," as it takes wing.

Although a bird of the ground it at times lights on the dead limbs of trees, or more usually on a stake or fence. On an island in Maine I once saw one perched on the roof of a lobsterman's hut.

The nest is a slight hollow, usually in the grass, or among weeds well back from the water's edge. When hatched, the young are quickly led to the water to begin their life of chasing along its shores. At this time their legs seem extremely long for the size of the bodies they have to support, and the little fellows present not only a very appealing but an unusually odd appearance.

Hudsonian Curlew

Numenius hudsonicus *Latham*

A. O. U. Number 265

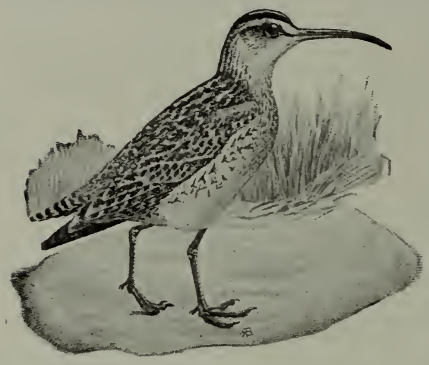
Other Names.—Jack Curlew; Jack; Striped-head; Crooked-billed Marlin; American Whimbrel; Short-billed Curlew; Curlew Snipe; Sea Snipe.

General Description.—Length, 18 inches. Prevailing color, red, darker above than below; toes webbed at base.

NEST AND EGGS.—Nest: Like that of Long-billed Curlew. Eggs: 4, creamy to pale olive-gray, boldly marked with shades of umber-brown.

DISTRIBUTION.—North and South America; breeds on the coast of Alaska from mouth of Yukon to Kotzebue Sound, and on the coast of Northern Mackenzie; winters from Lower California to southern Honduras, from Ecuador to Southern Chile, and from British Guiana to mouth of the Amazon; migrates mainly along the Pacific and Atlantic coasts; rare in the interior; casual on the Pribilof Islands and in Greenland and Bermuda; accidental in Spain.

ALONG the coast of Alaska, beyond the Yukon River, and on the shores of far-off Mackenzie, the Hudsonian Curlew makes its home in summer. In winter it lives in those tropical lands that lie between Mexico and central South America. In the United States it is seen only during the spring and fall migrations. In making its northern and southern flight it appears rarely if ever to fly over the land. It is truly a lover of the ocean, and, like the little Wilson's Plover, never strays far from its tumbling waves.



HUDSONIAN CURLEW

FROM A DRAWING BY R. I. BRASHER

This is a handsome species, and is one of the largest of our "beach birds." Along the coast of North and South Carolina it is often very abundant in the autumn, and even more common during the month of May. At these times flocks of Curlews may be found feeding on mud-flats, or secluded beaches, sometimes in company with other wading birds of like taste. As evening approaches, they rise and wing their way to some isolated and secluded bar or island, there to spend the night in safety.

Curlews have long been favorites among gunners. So much have they been shot that their numbers have been reduced greatly during the past fifty years. A closely related species, the Eskimo Curlew, was, up to twenty-five years ago, an abundant bird. It was shot so continually that to-day it is nearly, if not quite, extinct.

KILLDEER

OXYECHUS VOCIFERUS (*Linnæus*)

A. O. U. Number 273

OTHER NAMES.—Killdeer Plover; Noisy Plover; Chattering Plover; Kildee, Ring-neck.

General Description.—Length, 10 inches. Color above, olive-brown; below, pure white. A front view of the bird shows four black bands, two on head and two on breast. Wings, long and, in flight, showing a white V; tail long and rounded; bill slender.

Nest and Eggs.—Eggs: Deposited on the bare ground in fields, usually near water; 4, dull buffy, thickly spotted and blotched with brown and sepia.

Distribution.—North and South America; breeds from central British Columbia, southern Mackenzie, central Keewatin, and central Quebec south to the Gulf coast and central Mexico; winters from California, Arizona, Texas, Indiana, New Jersey, and Bermuda south to Venezuela and Peru; casual in Newfoundland, Paraguay, and Chile; accidental in Great Britain.

Although most of the Plover family are found on sea beaches or salt meadows, the Killdeer Plover is largely an inland bird. It is most numer-

Courtesy of the American Museum of Natural History

KILLDEER

The young are in their first plumage

ous in the neighborhood of water, but it is also found in fields, pastures, or wherever the open country is free from bushes or growing grain. Usually they move about in flocks of from six to a dozen and scatter while feeding. Their cry of "kill-dee, kill-dee!" often betrays their presence long before one has discovered them running across the open ground. When taking flight they "bunch," as hunters say, and continue their cries as long as they are on the wing.

The nest is a slight hollow, sometimes lined with a thin layer of grass

or small stones. The four eggs, spotted and scratched with black and chocolate-colored markings, chiefly about the larger end, blend so well with their surroundings that it is often very difficult to find them. In the nest the eggs always lie with their small ends pointing to the center of the group.

In autumn the Killdeers of the more northern part of their range migrate southward, and in winter are found in suitable localities from New Jersey to Peru.

Wilson's Plover

Ochthodromus wilsonius (*Ord*)

A. O. U. Number 280

General Description.—Length, 8 inches. Color above, ashy-gray; below, pure white. Head large; bill long and large; outer toes webbed halfway.

Nest and Eggs.—Eggs: Laid among the loose pebbles of the open beaches; 3, pale olive or greenish-gray, spotted and splashed all over with blackish-brown.

Distribution.—Southern North America; breeds from Texas eastward along the Gulf coast, and from southeastern Virginia (formerly New Jersey) south to the northern Bahamas; winters from southern Lower California, Texas, and Florida south to southern Guatemala and probably to the West Indies; casual in Nova Scotia and New England, and at San Diego, California.

Wilson's Plover is a bird that dearly loves the seashore, and is never found far away from it. In small scattered companies they feed along the beach, their feet wet with the receding wave, into the edge of which they run in quest of food. They gather, too, on the bars and mud-flats exposed at low tide, or frequent the beach-ponds and pools, but always wherever found they are within sound of the pounding surf.

In the late spring and summer, when their time is much occupied with domestic duties, they come more to the high, dry parts of the beach. They will run about among the dunes—those little hillocks that the wind builds of the loose, dry sands. Their plaintive calls may be heard on all sides as one comes among them. Looking about one may catch sight of a Plover scudding over the sands, or among the scattered clusters of beach-grass.

The nest of the Wilson's Plover is a slight hollow scratched in the sands, or among the broken sea-shells. When an intruder comes near it, the parents show the greatest signs of distress, and flutter about as if injured. Often they have been seen to squat, and act in a manner which would seem to indicate that they wanted you to believe they were covering their eggs. But be not deceived: they will never approach their nest while you are near.

Bob-White

Colinus virginianus virginianus (*Linnæus*)

A. O. U. Number 289

Other Names.—Quail; Bob-white Quail; Partridge; Virginia Partridge.

General Description.—Length, 10 inches. Plumage above, chestnut, black ashy, and tawny, mixed; below, different shades of brown with black marks. Feathers of crown, somewhat erectile. Found in open field.

Nest and Eggs.—Nest: On the ground under old rail fences; sheltered by a thick growth of grass or small bushes, or at the foot of stumps; constructed of dry grasses, leaves, or weed stalks. Eggs: 12 to 18, pure white.

Distribution.—Eastern North America from South Dakota, southern Minnesota, southern Ontario, and southwestern Maine south to eastern and northern Texas, the Gulf coast, and northern Florida west to eastern Colorado; introduced in central Colorado, New Mexico, Utah, Idaho, California, Oregon, and Washington.

The closely related Florida Bob-white is found in Florida except extreme northern part, the Texas Bob-white in southeastern New Mexico and southern Texas, and the Masked Bob-white in southern Arizona.

In the Northern States the Bob-whites are called "Quail," while in the South most people know them as "Partridges." These birds get their living largely by scratching on the ground; hence in bird books they are classified as belonging to the Scratching Birds, which include Turkeys, Chickens, and Grouse. During most of the year they are found in flocks traveling about through the fields and thickets in search of insects, as well as looking for the seeds and berries of plants.

When a flock or "covey" is scattered by some alarm they soon find each other again by calling. They roost on the ground, a dozen or more together, sitting in a compact body with heads pointed outward in every direction. They have many enemies, such as Hawks, Owls, Cats, Snakes and Weasels.

In spring the birds mate off in pairs. The nest is on the ground, often in a grain field, and usually by some stump, small bush or other object which in a measure serves to protect the nest and sitting parent from the approach of some enemy. From twelve to twenty pure white eggs are laid. The young are covered with down when hatched, and are soon able to follow the mother about in search for food. If you come upon a Bob-white and her brood of young, the anxious mother will flutter along the ground as if her wing is broken. By doing this she hopes to attract your attention until the babies have time to hide.

California Quail

Lophortyx californica californica (*Shaw*)

A. O. U. Number 294

Other Names.—Valley Quail; Top-knot Quail; California Partridge; Helmet Quail.

General Description.—Length, 11 inches. Males are ashy-gray above, and

slaty-blue and tawny below with chestnut patch; females are ashy-gray above and below. Both sexes have the head adorned with a glossy black crest, narrow at the base and gradually widening into gracefully recurving plumes.

NEST AND EGGS.—Nest: A slight hollow lined with grass, under brush heaps, beside a rock, bushes, old fences or other shelters, sometimes in gardens or even in "stolen" chicken nests. Eggs: 10 to 15, creamy, beautifully marked with spots and blotches of old gold, sometimes pale brown and chestnut over entire surface.

DISTRIBUTION.—Humid districts of Pacific coast region from southwestern Oregon south to Monterey County, California; introduced into Vancouver Island, Washington, and Colorado.

A HANDSOME bird is the California Quail. Its coat is of ashy gray, slaty-blue, and chestnut, the various color areas so distributed as to show to excellent advantage the bird's shapely form. The sight of a covey running through the desert scrub, necks extended and long crests erect, will

CALIFORNIA QUAIL

FROM A PHOTOGRAPH BY W. L. FINLEY AND H. T. BOHLMAN

arouse interest in even the most languid observer. From bill-tip to tail-tip this bird measures 10½ inches.

This Quail avoids flying when disturbed, and as a rule seeks the safety its long experience in running has taught it to expect Its days are spent in the open fields, the scrub or the semi-arid desert. At night it roosts in trees, sometimes several families gathering in a favorite resort.

The nest is made on the ground underneath some sheltering plant or weed. It is a slight hollow scratched in the sand and lined with grass

or leaves. Ten to fifteen pointed, handsomely spotted eggs are laid. It is well for the race that many little Quail are brought into the world, as the bird has numerous enemies that prey upon it. Among these are skunks, snakes, wildcats, foxes, coyotes, and hawks. It has human hunters also, for the bird is very popular with sportsmen, and great numbers are shot every year for food.

Ruffed Grouse

BONASA UMBELLUS UMBELLUS (*Linnæus*)

A. O. U. Number 300

OTHER NAMES.—Grouse; Shoulder-knot Grouse; Partridge; Drumming Grouse; Birch Partridge; Pheasant; Drumming Pheasant; Mountain Pheasant.

GENERAL DESCRIPTION.—Length, 18 inches. Color above, reddish-brown, spotted; below, yellowish, barred with dark. Both crested and ruffed; tail and wings of equal length; tail with 18 broad, blunt feathers, and somewhat double notched, so that it is nearly half-diamond shape when spread; tarsus partly feathered in front.

NEST AND EGGS.—Nest: On the ground, in thickets, dense underbrush, on the borders or in large woods, alongside of a log or at the base of a large tree; constructed of old leaves, a few feathers, weed stems, grass, and roots. Eggs: 6 to 15, usually 10 or 12, varying from whitish through cream to a pale brown, usually without spots but sometimes lightly speckled with shades of brown.

DISTRIBUTION.—Eastern United States from Minnesota, Michigan, southern New York, and southern Vermont south to eastern Kansas, northern Arkansas, Tennessee, and Virginia, and in the Alleghenies to northern Georgia.

North of this range is found the Canada Ruffed Grouse, and in Alaska, western Canada, and northwestern United States are found the Gray Ruffed Grouse and the Oregon Ruffed Grouse.

THIS is the bird generally called "Partridge" in the North, and "Mountain Pheasant" in those parts of the Southern States where it is found. The Ruffed Grouse belongs to the family of Scratching Birds, and lives on the ground in the woods.

In the winter it sometimes comes to apple orchards, and flying up on the limbs it eats many of the buds from the twigs. When the snow is deep it often goes to roost by plunging downward through the crust and remaining buried in the snow until morning. Foxes are always on the lookout for these snow beds of the Grouse, and every winter many of the birds are caught by them.

The Grouse lays her eggs in a bed of leaves usually by a log, at the foot of a stump or beneath a small bush. The ten or dozen young can run about as soon as hatched, and within a week can fly with ease. In moving about through the woods in quest of insects or berries, the hen as a rule follows, rather than leads her offspring.

One of the most stirring noises of all the woodland is the long, rolling,

booming sound produced by the wings of the male bird in spring as it walks some favorite log and sends its drumming love call far and wide.

Wild Turkey

Meleagris gallopavo silvestris *Vieillot*

A. O. U. Number 310*a*

Other Names.—American Turkey; Eastern Turkey; Northern Turkey; Wood Turkey; American Wild Turkey.

General Description.—Length, male, 4 feet; female, 3 feet. Prevailing color, iridescent copper-bronze. Head and neck, naked.

Nest and Eggs.—Nest: Placed on the ground, in tall dense weeds or tangled thickets; very well concealed. Eggs: 9 to 18, usually 9 to 12, warm yellowish-white, evenly dotted over the entire surface with reddish-brown.

Distribution.—Eastern United States from Nebraska, Kansas, western Oklahoma, and eastern Texas east to central Pennsylvania and south to the Gulf coast.

In southwestern United States are found Merriam's Turkey and Rio Grande Turkey, and in southern Florida the Florida Turkey is found.

In the early days of the settlement of this country Wild Turkeys were found over a large part of North America. They were not then to be found in any other country of the world. Our domestic Turkey has been bred from the descendants of wild birds taken to Europe from Mexico by Spanish explorers.

A Wild Turkey gobbler has many wives. They all slip away from him in the spring to lay their eggs and care for their young, while the gobblers wander about in small bands by themselves. They feed on the ground, but fly up in tall trees in bottom-lands or swamps to roost for the night. In regions where they are plentiful, several families often come together in the fall of the year and form "gangs" of fifty or more that travel about feeding on nuts, berries, seeds, and insects.

The Wild Turkey is the largest of our American game birds. Those I have seen killed varied from nine to sixteen pounds in weight, although many are of much larger size. Specimens have been taken that reached the surprising weight of forty pounds. Few birds have a better eye for detecting their enemies, and to this ability alone may be attributed the fact that in the wilder parts of our country some of these noble birds may still be found.

Mourning Dove

Zenaidura macroura carolinensis (*Linnæus*)

A. O. U. Number 316

Other Names.—Carolina Dove; Wild Dove; Turtle Dove; Dove.

General Description.—Length, 12½ inches. Prevailing color above, grayish-blue; reddish-fawn. Tail longer than wing, strongly graduated, consisting of 14 relatively narrow and tapering feathers.

NEST AND EGGS.—Nest: Placed in trees (usually low down), bushes, cactus, dense brier thickets, or on ground or on cliff; a frail structure of twigs, so flat that the fact that the eggs do not roll off oftener is remarkable. Eggs: 1 or 2, white; 2 and sometimes 3 broods in a season.

DISTRIBUTION.—North America; breeds from British Columbia, Saskatchewan, Manitoba, Ontario, and southern Nova Scotia south throughout the United States and Mexico, and locally in lower California and Guatemala; winters from southern Oregon, southern Colorado, northern Ohio, and North Carolina to Panama; casual in winter in Middle States.

FEW birds in North America are found over so wide a range as the Mourning Dove. It may be seen in various Provinces of Canada, in almost all parts of the United States, and in many of the States of Mexico. In the spring and early summer one usually sees them in pairs in open woodlands, orchards, and about the fields. They feed on the ground, and are often found walking along country roads. When flushed they sometimes strike their wings together, as they rise, producing a clapping sound.

The cry of this Dove is a sweet, cooing call that has in it a note of surprising sadness, hence the name *Mourning* Dove.

The nest is thin and flat, and is placed generally on the limb of a tree, or in a thick vine-covered bush. Many build their nests in apple-trees, on stumps, or on an old rail-fence. On the western plains, where trees are not at hand, the nests are made in a slight hollow scratched on the ground, sometimes in the shelter of a little sage bush. Two white eggs are laid.

GROUND DOVE

CHÆMEPELA PASSERINA TERRESTRIS (*Chapman*)

A. O. U. Number 320

OTHER NAME.—Mourning Dove.

GENERAL DESCRIPTION.—Length, 6½ inches; smallest of American Doves. Color above, grayish-brown; below, grayish-reddish. Wing moderate with rounded tip; tail from $^2/_3$ to $^3/_4$ length of wing, decidedly rounded, with 12 feathers, these relatively broad and with broadly rounded tips.

NEST AND EGGS.—Nest: On the ground or from 2 to 20 feet above it in bushes, stumps, vines, or small trees; simply a few curved twigs with the addition sometimes of pine-needles. Eggs: 2, pure white or creamy white.

DISTRIBUTION.—Florida, including Keys, South Carolina, and westward near the Gulf coast through Alabama to Louisiana into western Texas, southern Arizona and Lower California; occasional or casual northward to North Carolina, Virginia, District of Columbia, Maryland, Pennsylvania, New Jersey, New York City, and Tennessee. In southwestern United States, a related variety, the Mexican Ground Dove, occurs.

THIS little Dove of the Southern States is the smallest of all the Pigeon Family found in North America. It is an extremely dainty bird, and as a rule is very dignified as it walks along the garden paths or more quiet streets of southern towns in quest of seeds, on which it largely feeds. When choice food is discovered it sometimes loses its gentle manners,

and will fight Jays, Robins, or others of its own species if they come near. It has a soft, cooing note that is often heard in the orange groves of Florida.

The Ground Dove makes a frail nest of grasses and rootlets. It may be looked for in a variety of places, and selects different situations at different seasons of the year. Thus in central Florida nests have been found on stumps, February 28 and March 3; on the ground in oat fields, in April, May, and June; in orange trees and on grape arbors, in August and September. Few birds breed during so many months of the year as does this charming little ground walker. The eggs are pure white and are two in number—never more. Many colored people of the South believe that bad luck will come to anyone who kills a Ground Dove.

Turkey Vulture

Cathartes aura septentrionalis (*Wied*)

A. O. U. Number 325

Other Names.—Carrion Crow; Turkey Buzzard.

Description—Length, 2½ feet; spread of wings, 6 feet. Tail, long, and rounded; wings, when folded, reaching to or beyond the tip of tail; head and upper part of neck, entirely bare or with only a few bristles and with skin deepy corrugated. Adults: Head and upper neck of a *reddish tinge* and some shades of blue and white; neck and upper parts, blackish, glossed with green or purple; beneath, dull brownish-black; feathers above, broadly edged with dull grayish-brown; secondaries edged with gray; shafts of wing- and tail-feathers, pale brown or yellowish-white; bill, dull whitish; iris, brown; feet, flesh-colored.

Nest and Eggs.—Eggs: Commonly 2, sometimes 1, and very rarely 3; laid, from February to June, in a cave, a cavity between rocks, in a hollow log, or on the ground; white or creamy, variously spotted with lavender or purplish-brown blotches.

Distribution.—From southern Lower California and northern Mexico north to southern British Columbia, Saskatchewan, western Manitoba, northern Minnesota, southern Ontario, western and southern New York, and New Jersey; casual in Wisconsin, Michigan, northern Ontario, and New Brunswick; winters throughout most of its regular range in the East, but further west retires to California, Nebraska, and the Ohio valley.

The Turkey Vulture, or Turkey "Buzzard," spends much of its time in the sky. It is perhaps the most graceful of all our birds when on the wing. Once it lights on the ground, however, all its beauty of movement passes away. It moves forward with a most awkward stride that seems to be a cross between a step and a hop. At a distance it is attractive, but at close range it is very homely. The bare wrinkled skin on and about its head is red, which doubtless has suggested the "Turkey" part of its name.

This Vulture sometimes kills very young pigs, but usually its food consists of carrion. It eats with equal relish a dead and decaying snake, fish, cow, horse, or alligator. In fact, any dead animal, or part thereof

that its keen eyesight discovers as it sails about the country, serves as a banquet for the Turkey Vulture.

The bird builds no nest, but lays its two beautifully spotted eggs in a hollow stump or prostrate log in the deep woods. Sometimes nests are found in small caves or crevices of rocks in hilly regions. In the Southern States, where the bird is very abundant, hundreds may be found roosting together in the trees of a swamp, or on small wooded islands along the coast. They are always seen about towns, and often rest for hours on the roofs of buildings, looking down sleepily at the people as they pass along the streets below.

Black Vulture

Catharista urubu (*Vieillot*)

A. O. U. Number 326

Other Names.—Black Buzzard; Carrion Crow; Black Scavenger.

Description.—Length 27 inches; spread of wings, 4½ feet. Head, naked; feathers of neck extended up back of head in a point; wings, when folded, do not reach to the tip of the tail; compared with the Turkey Vulture, its tail is *decidedly shorter*, wing-strokes more frequent, is built more stumpily and weighs more. Adults (sexes alike): Head and a part of the neck, covered with a *black* wrinkly and lumpy skin; general color of entire plumage, blackish; *shafts of primaries, white fading to dull gray at base;* bill, blackish; the tip, dull yellowish-white; iris, brownish-hazel; legs, grayish-white with black claws.

Nest and Eggs.—Eggs: 1 to 3, laid on the ground under the protection of logs or bushes or in rock cavities; pale greenish or bluish-white, marked irregularly round the larger end with various shades of brown or brownish-purple; deposited from March to May.

Distribution.—From western Texas, Kansas, Illinois, Indiana, and southeastern Virginia south through the Southern States, Mexico, and Central America to southern South America; casual in Ohio, New York, Maine, Quebec, New Brunswick, and Nova Scotia.

A BLACK VULTURE ON THE STREET IN CHARLESTON, S. C.

From a photograph by H. L. Job

The Black Vulture has various local names, such as "Carrion Crow," "South Carolina Buzzard," and "South Carolina Eagle." Its feeding and nesting habits closely resemble those of the Turkey Vulture, but with certain small differences. They usually go in flocks

of from forty to a hundred birds, and feed not singly, but in great numbers, upon the carcass of a dead cow or horse. They are not seen sailing about the sky, except when very near their food, but when found on the wing they are generally going rapidly forward in a straight line. While flying they flap their wings for several strikes, and then sail a short distance before flapping again. The plumage is dull black instead of brown like the Turkey Vulture, and the skin of the bare head and upper neck is black instead of red.

In Charleston, South Carolina, they may be seen at any hour of the day sitting along the ridge of the meat-market, or in the streets below, hissing and contesting over scraps of waste meat thrown to them by the men who keep the meat stalls.

Cooper's Hawk

ACCIPITER COOPERI (*Bonaparte*)

A. O. U. Number 333

OTHER NAMES.—Pigeon Hawk; Chicken Hawk; Quail Hawk; Big Blue Darter; Swift Hawk; Striker.

DESCRIPTION.—Length: male, 18 inches; female, 20 inches. Spread of wings, 30 to 36 inches; tail round; five outer primaries notched on inner webs. Color above, dark bluish-slate; below, white.

NEST AND EGGS.—Nest: Usually in tall trees from 10 to 50 feet from the ground in secluded woodlands; often an old Crow's or some other Hawk's nest is appropriated; being frequently occupied for a number of years in succession, and, additional material being added each spring, some of the nests become very large and bulky structures. Eggs: 3 to 6 pale bluish or greenish white, sometimes plain but usually spotted with pale reddish-brown.

DISTRIBUTION.—North America; breeds from southern British Columbia, southern Alberta, southern Keewatin, central Quebec, and Prince Edward Island south to southern border of the United States; winters from southern British Columbia, Colorado, Nebraska, Ohio, and Massachusetts south to Costa Rica, and occasionally farther north.

THIS is the bird widely known throughout the country as the "Chicken Hawk," and the name is well deserved. No Hawk or other bird is such a scourge to small bird-life as this swift-flying feathered leopard. With the quickness of thought it darts into a flock of feeding birds, and before an alarm can be sounded has made off with one of them. Dashing around the corner of a barn it will seize and carry away a young chicken from the very feet of the astonished farmer that is feeding his fowls. People say it moves so fast that all you see of it is a blue streak; for this reason perhaps it is known in many places as the "Blue Darter." This Hawk rarely perches *on* a tree, but often perches *in* a tree, and from its hiding place dashes out upon its victims.

The eggs of the Cooper's Hawk are white, or nearly so, and are placed

in a nest cleverly hidden in the main fork of a tree in the woods. Farmers kill these birds and destroy their nests whenever they find them, and yet the Cooper's Hawk is so shrewd and so well able to care for himself that his numbers seem not to grow less.

Bald Eagle

HALIÆETUS LEUCOCEPHALUS LEUCOCEPHALUS (*Linnæus*)

A. O. U. Number 352

OTHER NAMES.—White-headed Eagle; White-headed Sea Eagle; American Eagle; Black Eagle; Gray Eagle; Washington Eagle. The last three names refer to the immature Bald Eagle.

GENERAL DESCRIPTION.—Length: male, 30 to 35 inches; female, 34 to 43 inches. Spread of wings, 6½ to 7¾ feet. Plumage, dark brown. *Tarsus, bare for an inch or more above base of toes;* five outer primaries deeply notched on inner webs.

NEST AND EGGS.—Nest: In large trees from 20 to 90 feet above ground, sometimes in niches of rocky cliffs; a large coarsely built affair of good-sized sticks, roots, twigs, seaweed, bits of turf, vine or plant stalks and lined with roots or grass. Eggs: 2, rarely 3, ivory-white with a granular surface.

DISTRIBUTION.—United States to southern Lower California and northern Mexico, breeding in suitable location throughout its range; rare and local in California and in arid interior.

From northwestern Alaska, northwestern Mackenzie, central Keewatin, and northern Ungava south to British Columbia and the Great Lakes, ranges the Northern Bald Eagle.

THIS is the bird that is the emblem of our national independence—the "American Eagle" we sometimes call it. It is not bald, although one might think so from its name. When three years of age the feathers of the head and neck become pure white, and always remain so. There is a story that Eagles sometimes carry off babies, but no scientific record of this ever has been made. Eagles eat rabbits, and wild ducks, and some other birds. Sometimes they catch lambs, but I am quite sure they are more fond of fish than any other food. They catch fish by swooping down to the surface of a lake or river, and often they rob the Osprey of the fish it has taken. They will also eat dead fish cast up on the beach by the ocean breakers.

Bald Eagles are far more numerous about lakes, rivers, and along the ocean than elsewhere. Usually their nests are built in very tall trees in swamps, or on lonely headlands or islands. The nest is often four or five feet in thickness and is composed of a cart-load of sticks, twigs, moss and other materials. Two whitish eggs are laid, and the young remain in the nest many weeks before they are able to fly. The female, which is larger than the male, measures about seven feet from wing tip to wing tip, and weighs eleven or twelve pounds.

Duck Hawk

FALCO PEREGRINUS ANATUM *Bonaparte*

A. O. U. Number 356*a*

OTHER NAMES.—Peregrine Falcon; American Peregrine; Great-footed Hawk; Wandering Falcon; Tercel (male); Eagle Hawk.

GENERAL DESCRIPTION.—Length: male, 18 inches; female, 19 inches. Spread of wings, 40 to 46 inches. Color above, bluish-ash; below, yellowish barred. Outer primary notched on inner web; tarsus broadly bare at the base, only slightly feathered in the front, and about the length of the middle toe with claw; upper section of bill with an additional point or tooth near the tip and a corresponding notch in the lower section.

NEST AND EGGS.—Nest: Usually in crevices on inaccessible cliffs, more rarely in natural cavities of trees; no apparent attempt at any construction. Eggs: 3 to 4, dull white, usually so heavily colored with spots, blotches, and specks of reddish or dark brown as to obscure the ground color.

DUCK HAWK

FROM A DRAWING BY R. I. BRASHER

DISTRIBUTION.—North and South America; breeds locally (except in northwest coast region) from Norton Sound, Alaska, northern Mackenzie, Boothia Peninsula, and western central Greenland south to central Lower California, Arizona, southwestern Texas, Kansas, Missouri, Indiana, Pennsylvania, and Connecticut (in mountains to South Carolina); winters from southern British Columbia, Colorado, and New Jersey (occasionally further north) to the West Indies and Panama; occurs also in South America south to northern Chile.

THE Duck Hawk is a famous bird in history. It was birds of this species that were used by "knights of old" when falconry was in vogue. Tame Peregrines, as they were called, were carried on hunting trips and were liberated when game-birds were sighted. The Falcon would at once give chase, and soon overtake the swiftest bird that flew. It could easily kill such large species as the big Blue Heron.

In this country falconry has not been practiced, but the Duck Hawk is well known to hunters. It is very bold, and will sometimes seize and bear off a wounded wild duck almost under the very nose of the astonished gunner. Usually it captures its prey in the air. In fact, this is such a well established habit that when one appears near a flock of flying ducks these birds usually descend with great rapidity and alight in the water. In this position they seem to have small fear of their swift enemy. A few pairs of Duck Hawks have been known for many years past to rear their young every summer in nests built on the cliffs along the Palisades. From this rocky retreat they make dashes over to the parks lying in the center of New York City, and capture many of the tame pigeons that daily resort there to feed.

Sparrow Hawk

FALCON SPARVERIUS SPARVERIUS *Linnæus*

A. O. U. Number 360

OTHER NAMES.—American Sparrow Hawk; American Kestrel; Rusty-crowned Falcon; Grass-hopper Hawk; Mouse Hawk; Kitty Hawk; Windhover; Short-winged Hawk; "Cleek-cleeuk."

GENERAL DESCRIPTION.—Length, 11 inches. Color above, cinnamon-rufous; below, pale rusty and whitish. Two outer primaries notched on inner webs; tarsus but slightly feathered in the front, broadly bare on back, and decidedly longer than the middle toe.

NEST AND EGGS.—Eggs: Deposited in natural cavities of trees, deserted Woodpecker holes, in rock cavities, holes in banks, artificial nesting boxes, or in crannies of outbuildings without nesting material; 4 or 5, ground color varying from creamy-white to reddish-buff, specked, spotted or clouded with shades of Indian red and brown, usually largest and more numerous or sometimes wreathed at greater end; some eggs minutely dotted all over with dark brown, some so heavily splashed as to conceal the ground color.

DISTRIBUTION.—North America east of the Rocky Mountains; breeds from the Upper Yukon, northwestern Mackenzie, southern Keewatin, and Newfoundland south to Texas and the eastern Gulf States (except Florida); winters from Kansas, Indiana, Ohio, and Massachusetts south through Mexico to Costa Rica.

Close relatives (sub-species) of the Sparrow Hawk extend the range of this bird over practically all of North and South America.

THIS is the smallest and the best known of all our Hawks, and may be found almost any place in the United States. It inhabits fields and prairies, open woods and deserts and in all these regions people know it and have for it a name. "Killy Hawk" and "Mouse Hawk" are two of the names by which it is called. It flies about much in the spring and summer, and its cry of "killy! killy! killy!" may be heard far across the fields.

While searching for food it sits motionless on some elevated perch, like a stake, dead tree, or telephone pole. Its sharp eyes watch the ground

beneath. All at once it flies toward the earth, for something has moved in the grass that has attracted its attention. The bird may pause and hover to get a better view, then comes the plunge and the luckless grasshopper, mouse, lizard, or rarely a small bird, is carried away.

The four or five prettily-marked eggs are laid in the cavity of a tree, generally an abandoned Flicker's nest. In some places where trees are scarce, nests have been found in crevices about buildings, or in holes in tall cliffs.

Osprey

Pandion haliaetus carolinensis (*Gmelin*)

A. O. U. Number 364

Other Names.—American Osprey; Fish Hawk; Fishing Eagle.

General Description.—Length, 2 feet; spread of wings, 4½ to 5½ feet. Upper parts, dark brown; head and under parts, white.

Nest and Eggs.—Nest: In a tree or on the ground; composed principally of coarse sticks, seaweed, and any old rubbish which is handy. Eggs: 2 to 4, usually 3, yellowish or dull white, spotted and blotched with Indian red and different shades of brown, sometimes so heavily at the large end as to obscure the ground color; some marked at small end, and others almost plain.

Distribution.—North and South America; breeds from northwestern Alaska, northwestern Mackenzie, central Keewatin, southern Ungava, and Newfoundland south to Lower California, western Mexico, and the Gulf coast; winters from the southern United States through Lower California and Mexico to the West Indies and Central America; occurs also in South America south to Peru and Paraguay.

The Osprey in its size and manner of flight suggests a large Hawk or an Eagle. It lives about the larger rivers and lakes of the country, but is particularly plentiful along the sea-coast. Its food consists entirely of fish that it captures in a most bold and direct manner. "Fish Hawk," many people call it. Flying along leisurely over the water it suddenly detects a fish below, and after hovering a moment plunges headlong with half-closed wings. The impact of the blow sends the water high in air. A moment later, with dripping plumage, it rises aloft and bears away the unfortunate prey in its talons. The fish seems always to be carried with its head pointing in the direction the bird is moving.

Ospreys frequently assemble in colonies to rear their young, and from twenty to forty nests may at times be counted over an area covering only two or three miles. The nests are very large, and are placed in the tops of tall trees, on broken tree snags, and occasionally on the ground. The splotched and spotted eggs are among the most beautiful laid by North American birds. The young in the nest possess many curious and interesting traits.

Barn Owl

Aluco pratincola (*Bonaparte*)

A. O. U. Number 365

Other Names.—Monkey-faced Owl; Golden Owl; White Owl; Monkey Owl; American Barn Owl; Straw Owl; Grass Owl; Church Owl.

General Description.—Length, 18 inches; spread of wings, 44 inches. Plumage, whitish-tawny, speckled with black.

Nest and Eggs.—Nest: Almost anywhere—in church towers, outbuildings, hollow trees, holes in steep banks, deserted nests, or even in ground burrows; constructed of a few sticks, hay, straw, bones, or other refuse. Eggs: 3 to 11, usually 5 to 7, dull white, unspotted.

Distribution.—Greater part of United States and Mexico; breeding north to Long Island, New Jersey, Pennsylvania, western New York, Ohio, northern Indiana, northern Illinois, southern Nebraska, Colorado, and upper Sacramento valley, northern California and occurring, more or less irregularly, farther northward to Massachusetts, Vermont, Ontario, Michigan, Wisconsin, Minnesota, Oregon, and southern British Columbia; southward over whole of Mexico, whole of Lower California, and eastern Central America to eastern Nicaragua, at least in winter.

This is without doubt the queerest looking and most unusual acting creature in feathers found throughout the length and breadth of the land. Its face resembles a monkey to a most startling extent, from which fact the bird is often called the "Monkey-faced Owl." When cornered and unable to escape by flight, it has a way of leaning forward until its bill almost reaches the floor, and then with its weird face thrust out at you its head swings from side to side. This movement continues with a slow but regular action like the pendulum of some strange-looking clock. While viewing this striking performance a child does not know whether to laugh or run.

Barn Owls often live about hollow trees. Many roost and nest in barns, old mills, and church steeples. They seem as much at home in the steeple in a city church as in the outbuilding of the most lonely farm. It is with most people a bird of mystery, for it keeps out of sight so much that, even where it is fairly numerous, few know of its existence.

This Owl is one of the most successful mousers in the bird-world, and fortunate, indeed, is the farmer who is blessed by the presence of one or more of them.

Barred Owl

Strix varia varia *Barton*

A. O. U. Number 368

Other Names.—Hoot Owl; Rain Owl; Wood Owl; Round-headed Owl; Swamp Owl.

General Description.—Length, 20 inches; spread of wings, 44 inches. Plumage brown, barred with whitish. No ear-tufts or horns.

NEST AND EGGS.—Nest: Almost always in a hollow tree on the old chips but sometimes in a deserted Crow's or Hawk's nest. Eggs 2 to 4, usually 3, white, unspotted.

DISTRIBUTION.—Middle eastern North America; breeds north to Newfoundland, southern Quebec, northern Ontario, southern Keewatin, Manitoba, and Saskatchewan, west to eastern Montana, eastern Wyoming, and eastern Colorado; south to Virginia, western North Carolina, northwestern South Carolina, northern Georgia, Tennessee, Kentucky, southern Illinois, Missouri, and northern Arkansas, and occasionally to Louisiana.

The Florida Barred Owl is found on the coastal plain from eastern Texas to Florida and South Carolina, and the Texas Barred Owl in middle southern Texas.

THIS is the big "Hoot Owl" of the bottom-land woods. Its loud, laughing, hooting calls echo through the forests during the early hours of darkness, and may fill with terror the mind of a city boy who never heard one before. At times three or four will get together and call. When this occurs there is no forest serenade that can quite equal the uproar that ensues. This bird will answer the poorest kind of an imitation of its note, and the camper may at times call several to the trees about his camp-fire of an evening.

BARRED OWL
FROM A DRAWING BY R. I. BRASHER

The eggs are laid usually in the hollow of some forest tree, but as one cannot hunt birds' nests very well at night, and as Owls usually remain very quiet by day, the nests are not often discovered.

Barred Owls eat a wide variety of things. In part, their food consists of frogs, lizards, and insects. Spiders are eaten, also fish and craw-fish at times. A good many small birds are caught, and now and then this big night-flier visits the poultry yard and carries off a hen, but such raids are not very frequent. On the whole, this Owl is supposed to render mankind more service than harm.

SCREECH OWL

OTUS ASIO ASIO (*Linnæus*)

A. O. U. Number 373

OTHER NAMES.—Little Horned Owl; Gray Owl; Red Owl; Little Dukelet; Mottled Owl; Shivering Owl.

GENERAL DESCRIPTION.—Length, 10 inches; spread of wings, 22 inches. Dichromatic; in gray phase, brownish-gray dappled; in red phase, pattern the same but color

SPARROW HAWK (3/8 nat. size)

OSPREY (1/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

From Nature's Secrets, by G. Clyde Fisher

COOPER'S HAWK (4/9 nat. size)

BALD EAGLE (1/16 nat. size)

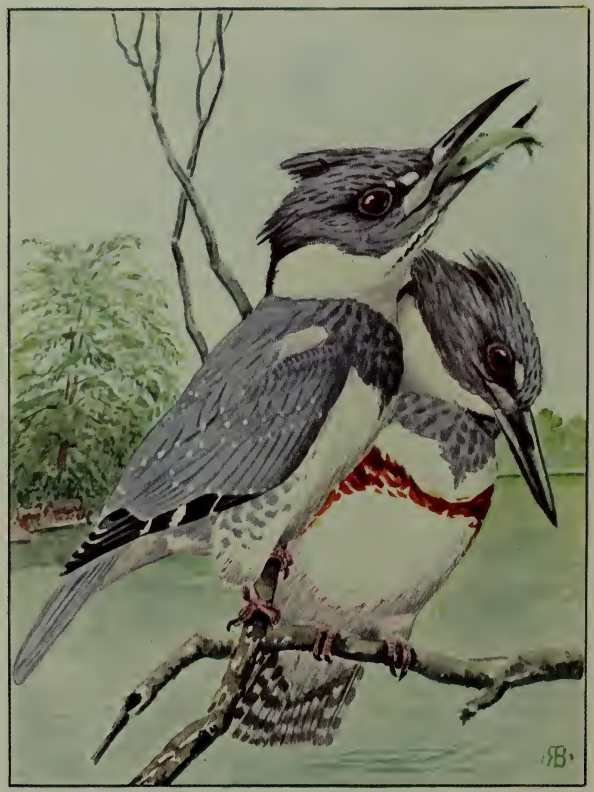
FROM DRAWINGS BY R. I. BRASHER

SCREECH OWL (1/4 nat. size)

GREAT HORNED OWL (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER

YELLOW-BILLED CUCKOO (3/8 nat. size)



BELTED KINGFISHER (1/4 nat. size)

FROM DRAWINGS BY R. I. BRASHER

chestnut-red. Ear-tufts, large and conspicuous; four or five outer primaries notched or cut away on inner webs; toes scantily feathered toward their tips.

NEST AND EGGS.—Nest: In a deserted Woodpecker hole, in natural hollow in a tree or stump, in outbuildings, or boxes placed in trees for their use. Eggs: 4 or 5, white, laid on a few sticks, bits of grass, leaves, and feathers.

DISTRIBUTION.—Eastern North America from Minnesota, Ontario, and New Brunswick south to northeastern Texas and Georgia, and west to about the 100th meridian; accidental in England.

Sub-species or varieties of the Screech Owl extend the range of this bird all over United States.

THE shivering cry of the little Screech Owl is a familiar sound to most people who pass the summer in small villages, or in the country. In the evenings a pair of these birds with their family of young may come into the trees of the yard, or even perch on the veranda railing, and indulge in their cries and wailings for an hour at a time.

One reason why Owls are largely such enemies to birds is that their feathers are very soft, in fact each one is edged with a little down, which makes it possible for them to fly with absolute silence. A Hawk swooping down on its prey produces a roaring sound in the air, but the Owl can descend as noiselessly as a shadow upon its victim. A mouse on the ground, or the sleeping bird on the limb, has little chance for escape when the Owl comes his way.

In addition to some birds and many mice, these little Owls will eat spiders, earth-worms, and almost anything they can catch and hold. Some Screech Owls are brown, while others are gray. Why this is true we do not know; neither age nor sex seems in the least to determine the color.

GREAT-HORNED OWL

RUBO VIRGINIANUS VIRGINIANUS (*Gmelin*)

A. O. U. Number 375

OTHER NAMES.—Big Hoot Owl; Cat Owl; Virginia Owl; Virginia Horned Owl.

GENERAL DESCRIPTION.—Length, 24 inches; spread of wings, 60 inches. Color above, sooty-brown, or dusky, mottled with grayish-white; below, whitish, barred with dark. Ear-tufts very conspicuous, about 2 inches in length; toes fully feathered; 3 or 4 outer primaries notched or cut away on inner webs.

NEST AND EGGS.—Nest: Generally in a deserted Hawk's, Crow's, Eagle's, Osprey's or Caracara's nest or (in some parts of its range) in a cave, on a ledge, or in a hollow tree; constructed of twigs, weed stalks, roots, and feathers when in an old nest, or eggs deposited on the bare ground amidst a collection of old bones, skulls, fur and feathers of quadrupeds and birds. Eggs: 2 or 3, white.

DISTRIBUTION.—Eastern North America from Ontario, Quebec, New Brunswick, and Newfoundland south to the Gulf coast and Florida, west to Wisconsin, eastern Minnesota, Iowa, and eastern Texas.

Varieties of the Great-horned Owl are to be found over the greater part of North and South America.

The Great-horned Owl has been well named the "Tiger" of the bird-world. It is large, and is so very strong that it can easily carry away a grown hen. It also catches many other birds, including Grouse and Quail. Quite naturally, therefore, it is very unpopular with both the birds and people who raise hens. Yet in spite of these annoying habits, this Owl is said to be of great benefit in some places to the fruit-growers. Rabbits gnaw the bark of many small fruit trees and kill them. These Owls are very fond of Rabbits, and catch a great many. In this way they pay in part for the chickens they take. They also eat mice and rats, skunks, and various other kinds of small mammals.

The Great-horned Owl mates very early in the year, often before the snow is all off the ground. The two or three large white eggs are laid either in the hollows of trees or in old Hawk or Crow nests. They are birds of the deep woods, and come out into the open country only at night. All day they sleep, unless the day happens to be dark and cloudy. Then sometimes you may hear the Owl's cry, a deep "whoo, hoo, hoo, hoo, whoo, whoo!"

Road-Runner

Geococcyx californianus (*Lesson*)

A. O. U. Number 385

Other Names.—Ground Cuckoo; Chaparral Cock; Snake Killer; Lizard Bird; Churca; Paisano; Correcamio; Cock of the Desert.

General Description.—Length, 20 to 24 inches. Color above, olive streaked with tawny-brown and buffy-whitish; below, whitish streaked on chest. Tail, long and graduated; feathers of head bristle-tipped; entire plumage, coarse and harsh.

Nest and Eggs.—Nest: Usually in cacti, mesquite, sage brush, or thorny bushes; a large coarse structure of sticks, lined with grass, feathers, strips of bark, snake skin, or rootlets, with slight depression. Eggs: 4 to 6 usually, but sometimes 2 or 12, chalky white or pale yellowish.

Distribution.—California, Colorado, Kansas, and western and middle Texas, south through Lower California and the tableland of Mexico to Puebla.

In southern Arizona one of these strong-legged birds ran for fully two hundred yards before my galloping horse ere it turned aside for shelter into a roadside thicket of cactus and mesquite. The Road-runner seldom flies, for it lives almost entirely on the ground, and when pursued can usually escape by running.

Its food consists of beetles, grasshoppers, lizards, and such other small animal life as can readily be captured. In Texas I once saw one carrying in its beak what appeared to be a young bird, hotly pursued and scolded by an adult Mockingbird. The nest of sticks and twigs is built in a low tree or cactus, and is not a very bulky structure. This latter fact is not surprising when we recall that the bird belongs to the family of American

Cuckoos, all the members of which build nests very light and unsubstantial in appearance.

The Road-runner is about two feet in length, and the color and appearance of the coating of feathers changes little during the season, the mark-

ROAD-RUNNER

From a photograph by W. L. Finley and H. T. Bohlman

ings of the male, female, and young virtually being the same at all periods of the year. The species is found generally through the semi-arid regions of the Southwestern States, and is usually known as the Chaparral Cock.

Yellow-Billed Cuckoo

Coccyzus americanus americanus (*Linnæus*)

A. O. U. Number 387

Other Names.—Rain Crow; Rain Dove; Storm Crow; Chow-Chow; Kow-Kow.

General Description.—Length, 11 or 12 inches. Color above, grayish-brown; below, white.

Nest and Eggs.—Nest: Generally in fork of a tree as high as 25 feet up; a frail structure of twigs, grass, leaves, and catkins, so shallow that it is remarkable the eggs do not roll out oftener. Eggs: 2 to 6, pale dull, greenish-blue.

Distribution.—Parts of North and South America; breeds from North Dakota, Minnesota, southern Ontario, Quebec, and New Brunswick south to Louisiana and northern Florida, and west to South Dakota, Nebraska, and Oklahoma; migrates through the West Indies and Central America; winters in South America south to Ecuador, Bolivia, and Argentina.

The California Cuckoo which ranges over western North America is a close relative of this bird.

THE Cuckoo is a bird of mystery, so often is it heard and so seldom is it seen. The plaintive "cow, cow, cow!" notes issuing from the depth of grove or thicket, often in cloudy weather, have caused many people living in the country to believe that it foretells the coming of rain. For this reason it is widely known as the "Rain Crow."

It is a very slender, grayish bird, and is not often seen except as it slips quietly from one tree to another. Its movements are so queer, and it keeps out of sight so much, one is almost inclined to believe the bird has just done something wrong, or is thinking of committing a crime.

The Cuckoo's nest is built of small twigs, and sometimes a few grass blades. It is generally placed on the limb of a thick-growing tree or vine-covered bush and is such a frail affair that at times the pale, bluish eggs may be seen through the nest from the ground below.

This is a very valuable bird on a farm, for it eats untold numbers of caterpillars that are preying on the leaves of fruit trees. Cuckoos all leave the United States in autumn, and do not return until the warm days of spring.

BELTED KINGFISHER

CERYLE ALCYON (*Linnæus*)

A. O. U. Number 390

OTHER NAMES.—Kingfisher; the Halcyon.

GENERAL DESCRIPTION.—Length, 12 inches. Color of upper parts and of belt, bluish-gray; under parts, white; females with a reddish band across abdomen. Head, crested.

NEST AND EGGS.—Nest: At extreme end of a burrow in the bank, from 4 to 15 feet long. Eggs: 5 to 8, laid on the bare floor of the enlarged extremity of the tunnel.

DISTRIBUTION.—North America and northern South America; breeds from northwestern Alaska, northwestern Mackenzie, central Keewatin, northern Quebec, and Newfoundland south to southern border of the United States; winters from British Columbia, Nebraska, Illinois, Indiana, Ohio, and Virginia south to the West Indies, Columbia, and Guiana, and irregularly as far north as Massachusetts, New Hampshire, and Ontario.

THE cry of the Kingfisher is very similar to the rattling call of a policeman's whistle. It may be heard as one paddles his canoe up a winding creek, or along the shores of a river or lake. Sitting on a stake or limb overlooking the water, it sees you in ample time to drop from its perch, and sounding a shout of alarm it darts on to its next favorite resting place.

The Kingfisher's food is fish, which it catches by plunging in the water from the air above. Often it hovers above its prey on rapidly beating wings before striking downward. Although its white eggs are generally

laid in a deep hole, which it burrows in a steep bank, nests have been found in Florida situated in hollow limbs reaching out over the water.

When first hatched the young are naked, and not down-covered like many baby birds.

In summer, Kingfishers are found in almost all parts of North America. When winter arrives, those in the northern sections of their range travel southward. Many, however, remain in the United States wherever open water may be found, for this bird is a fisherman all the year, and does not like to travel any farther than is necessary to secure its food.

Downy Woodpecker

Dryobates pubescens medianus (*Swainson*)

A. O. U. Number 394c

Other Names.—Little Guinea Woodpecker; Little Sapsucker (incorrect); Tommy Woodpecker; Black and White Driller.

General Description.—Length, 6½ inches. Upper parts, black and white; under parts, white.

Nest and Eggs.—Nest: Generally in a dead tree. Eggs: 4 to 6; white.

Distribution.—Northern and central parts of eastern North America from southeastern Alberta, Manitoba, and southern Ungava to eastern Nebraska, Kansas, and the Potomac valley, and in mountains to North Carolina.

Sub-species of the Downy Woodpecker are to be found over all of temperate North America.

Courtesy of Outing Publishing Co.

DOWNY WOODPECKER AT WORK

The Downy Woodpecker is equally at home in the forest, orchard, or the trees of the lawn. One living near shade or apple trees soon becomes familiar with its sharp call-notes, produced sometimes singly, and again rapidly repeated until they produce the nearest approach to a song of which the bird is capable.

Its food consists mainly of boring grubs and larvæ that it gets by digging little holes in the bark of trees. Many of these insects are very injurious, so the bird is the fruit-grower's friend.

Like other Woodpeckers, the Downy digs for its nest a hole in dead limbs or stumps. This labor is performed of course in the spring, when

the birds are mating; but Downy digs out another hole late in autumn, and uses it as his bedroom in winter. Go to the place some cloudy winter morning and strike sharply on the tree with a stick or stone, and soon at the entrance hole a little head with two bright eyes will appear and look down at you in a manner that seems to say: "All right, you knocked, what do you want?"

From the above, we see that Downy does not run off to the South when snow comes. No, indeed; in company with bands of Chickadees and Nuthatches you will find him, or one of his friends, busy at work most of the time hunting through the groves for his favorite food.

Red-Headed Woodpecker

Melanerpes erythrocephalus (*Linnæus*)

A. O. U. Number 406

Other Names.—Redhead; Tricolor; Tricolored Woodpecker; White-shirt; Jellycoat; Shirt-tail; Patriotic Bird; Flag Bird.

General Description.—Length, 9 inches. Head, red; black with white patches; under parts, white.

Nests and Eggs.—Nest: Generally in a dead tree but sometimes in a living tree, telegraph pole, or fence post. Eggs: 4 to 6, white.

Distribution.—Eastern United States and British provinces from southeastern British Columbia, Wyoming, Colorado, and Texas, east to the Atlantic coast; north, regularly, to northern New York (breeding in Adirondack region), Ontario, Manitoba, central Alberta, and southwestern Saskatchewan (rare); south to southern Florida and Gulf coast to Texas; rare and local east of the Hudson, where breeding, however, north to Vermont; casual in Nova Scotia, New Brunswick, Utah, New Mexico, and Arizona; irregularly migratory in northern parts of its range.

Some birds, like some people, have what we call more "personality" than others. The Red-headed Woodpecker has much personality. For one thing, it is a strikingly beautiful bird, with its white, black, and red plumage. Its food is of wide variety, and is taken not only by digging in dead trees in true Woodpecker fashion, but many insects are caught on the wing in much the manner the Phœbe or Kingbird employs when feeding. It is also fond of berries, some of which are cultivated, and many others are wild.

The Redhead is very noisy, especially during the nesting season. One of its notes, often heard, closely resembles the call of the little tree-toad. In many Southern towns they are numerous in the groves, on the lawns, or even perched on the ridges of the houses, from a loose shingle or the tin coping of which they sound their long-rolling love call.

Each spring, as a rule, the birds dig new nesting holes. These are generally made in dead trees or tree snags. In towns their nests are often

made in the telephone poles that line the streets. If a nest is destroyed, the birds will dig a new hole, and a second setting of eggs will be laid. I once knew a female Redhead thus to lay five sets of eggs in one summer.

Flicker

Colaptes auratus (*Linnæus*)

Other Names.—Yellow-shafted Woodpecker; Golden-winged Woodpecker; Clape; Pigeon Woodpecker; Yellowhammer; High-hole; High-holder; Yarrup; Wake-up; Wood-pigeon; Heigh-ho; Wick-up; Hairy Wicket; Yawker Bird; Walk-up; Ant Woodchuck.

General Description.—Length, 11 inches. Upper parts, grayish-brown, barred with black; under parts, lilac-brown, black, and yellowish.

Nest and Eggs.—Nest: In tree or stub. Eggs: 4 to 9, white.

Distribution.—Eastern North America from tree limit south to the Gulf coast.

The Flicker is a very abundant bird in the United States, and is known by a great variety of names. Here are a few of the hundred or more by which it is called: "Yellowhammer," "Golden-winged Woodpecker," "High-holder," "Wake-up," and "Yawker Bird." Although it is a Woodpecker, it gathers its food almost entirely on the ground, and three-fifths of all it eats consists of ants.

Flickers are very noisy, especially in the mating season. Often two will face each other on a limb and bob and call "whee-chew, whee-chew!" over and over again in a soft, melodious voice.

For their nests they dig holes in dead trees, or the dead limbs of living trees. The bottom of the nest is lined with fine chips, on which there is laid from four to nine glossy white eggs. The young are hatched naked and for many days continue to be most odd looking specimens of bird-life. Flickers dig new holes each year. There are left all over the country thousands of their old nests, which are used by many other birds that like to lay their eggs in hollows, but do not have bills suitable for chiseling out holes in the hard wood.

Whip-Poor-Will

Antrostomus vociferus vociferus (*Wilson*)

A. O. U. Number 417

Other Name—Nightjar.

General Description.—Length, $9\frac{1}{2}$ inches. Plumage, a variegation of gray, brown, black, and buff. Tail, rounded.

Nest and Eggs—Eggs: 2, white, beautifully marked with spots of brown, yellowish-brown, and purple; laid on old leaves or decayed bits of wood, usually in deep woods, beneath dense underbrush, or in shady ravines.

Distribution.—Eastern United States and southern Canada; north to Nova Scotia, New Brunswick, Maine, Vermont, southern Quebec, Ontario. southern Keewatin,

Manitoba, and Saskatchewan; west to eastern edge of the Great Plains in eastern Nebraska, Kansas, etc., during migration to west-central Texas, casually to eastern Colorado; breeding southward to northern Louisiana, southern Georgia, northwestern Florida, eastern Texas (?), etc.; wintering in Gulf States (Florida to southern Texas) and southward through Mexico to Central America.

Stephens' Whip-poor-will is found in southern Arizona, New Mexico, and southwestern Texas.

MANY people think the Nighthawk and Whip-poor-will are merely different names for the same bird, but the truth is the birds are quite different. The "whip-poor-will" cry that we often hear in the country on summer nights is never uttered by the Nighthawk. The bird does not catch its insect food in long wandering flight through the sky, but by short flights in the woods and about the borders of woodlands and in orchards. It does not make a nest, but lays its two yellowish-white speckled eggs on the dead leaves that are usually found on the ground in thickets when spring comes.

When a mother Whip-poor-will is frightened from her nest she will flutter along the ground and do her best to make you think she is injured. She is trying to get you to follow her so you will not see her eggs. The young are covered with down when hatched, and are as pretty a pair of little wood babies as you will find in many a day's walk. Ignorant people sometimes think that if a Whip-poor-will lights on your doorsteps at night and sings it will bring bad luck to the household.

NIGHTHAWK

CHORDEILES VIRGINIANUS VIRGINIANUS (*Gmelin*)

A. O. U. Number 420

OTHER NAMES—Goatsucker of Carolina; Bull-bat; Mosquito Hawk; Will-o'-the-Wisp; Pisk; Piramidig; Long-winged Goatsucker.

GENERAL DESCRIPTION—Length, 10 inches. Plumage, a variegation of black, gray, brown, and buff; white patch on wing. Tail emarginate.

NEST AND EGGS.—Eggs: 2, grayish-white, densely spotted and blotched with gray, black, and pale purple; laid in gravelly spaces of open fields, on large rocks, on gravel roofs in cities, or (more rarely) in open spaces.

DISTRIBUTION.—North and South America; breeds from southern Yukon, central Mackenzie, central Keewatin, northern Quebec, and Newfoundland south to northern parts of Gulf States and west to edge of Plains from Minnesota to northeastern Texas; migrates through the Greater Antilles and Central America; winters in South America from Brazil south to Argentina.

Four other varieties or sub-species of the Nighthawk extend the breeding range of this bird over nearly all of North America.

THE Nighthawk, or "Bull-bat," is another bird that seeks its food in the sky. It is most often seen as it flies about high over the trees or buildings in quest of insects that we cannot see, but yet are swarming through

the upper air. As it flies it gives sharp little squawks, and now and then produces a low booming sound when it drops in a long sweep toward the earth.

The bird makes no nest, but lays its two mottled eggs on the ground in the open woods, pastures, or fields. The eggs so closely resemble the

NIGHTHAWK

From a drawing by R. I. Brasher

earth that it is difficult to see them when one flushes the setting bird. In large cities, Nighthawks have a habit of laying their eggs on the flat tops of tall buildings.

The roosting place is generally the bare, level limb of some tree, on which the bird crouches lengthwise—never crosswise. On the prairies of the Northwest one may often see them roosting on the top of the long snow fences built to protect the railway tracks from snow-drifts.

Chimney Swift

Chætura pelagica (*Linnæus*)

A. O. U. Number 423

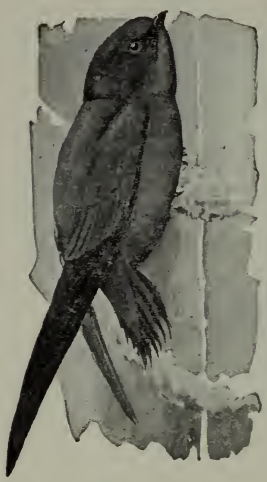
Other Names.—Chimney Swallow; American Swift.

General Description.—Length, 5½ inches. Plumage, sooty-blackish, lighter below. Tail, less than ½ length of wing, rounded or even, the feathers with spiny tips.

Nest and Eggs.—Nest: Inside a chimney; of small twigs glued together with a gelatinous fluid secreted by the salivary glands forming a semi-circular wall pocket. Eggs: 4 to 6, pure white.

DISTRIBUTION.—Eastern North America; north to New Brunswick, Nova Scotia, Province of Quebec, southern Labrador, northern Ontario, Manitoba, and Alberta, accidentally to southern Greenland; west to western border of Great Plains and (accidentally?) New Mexico; breeding southward to southern Florida and thence westward along Gulf coast to southeastern Texas; occasional straggler to the Bermudas.

THIS is another bird that has entirely changed its nesting habits since the coming of the white man to this country. A long while ago their nests were made in hollow trees, but to-day it is very rare that one is found, except in a chimney. It is made of fine dry twigs all glued together and stuck against the chimney bricks. This glue is secreted by glands in the mouth.



CHIMNEY SWIFT

FROM A DRAWING BY R. I. BRASHER

After the nesting season Chimney Swifts have the habit of gathering in numbers to roost for the night in some large chimney. They will return to this place every night for several weeks until the time comes for them to migrate south. One evening I counted more than one thousand going to roost in the chimney of a Southern college building.

We never see one of these little sooty black birds perched on a tree or hopping along the ground for the reason that its legs are so weak they will not bear its weight, except as it hangs with its toes to the chimney's side. The ends of its tail-feathers are sharp and strong, and with them the bird braces against the brick where it rests.

Aside from a twitter one often hears as the bird circles overhead it appears to have very few notes, none of which could very properly be called a song.

RUBY-THROATED HUMMINGBIRD

ARCHILOCHUS COLUBRIS (*Linnæus*)

A. O. U. Number 428

OTHER NAMES.—Hummingbird; Common Hummingbird; Hummer; Ruby-throat; Honey-sucker.

GENERAL DESCRIPTION.—Length: male, 3¼ inches; female, $3^4/_5$ inches. Upper parts, bronze-green; under parts, red, bronze-green, and white.

NEST AND EGGS.—Nest: An exquisite cup, less than two inches across, of felted plant, fern, or dandelion-seed down, covered so perfectly with moss and lichens and fastened with spider webs as to appear a mere protuberance on the limb, and lined with a layer of the finest down. Eggs: 2, pure white.

DISTRIBUTION.—Eastern North America; north, regularly to southern Labrador,

Quebec, Ontario, and Keewatin (to about latitude 52°), and in the interior to northern and central Alberta; west to about middle portion of Great Plains (along streams); breeding southward to middle Florida and along the Gulf coast to west-central Texas; wintering from middle and southern Florida and southern Texas southward through southern Mexico and Central America to Panama; casual in Cuba in migration.

THERE are over four hundred kinds of Hummingbirds in Central and South America, and there are seventeen in western United States, but the only one found east of the Mississippi River is the Ruby-throat. It is the smallest of all our birds, and weighs only one-tenth of an ounce. Although it is little it is very brave, and will attack any creature that comes near its nest. A female will often leave her eggs and strike down at your head, if you invade the neighborhood of her home.

RUBY-THROATED HUMMINGBIRD

FROM A DRAWING BY R. I. BRASHER

The nest is a very soft little affair, made of plant-down, and covered with lichens. It is set on a limb well up from the ground, and looks for all the world like a knot. It is about the size of a walnut. Two white eggs are laid. The birds feed on nectar of blossoms, and small insects that they capture in and about the flowers. In autumn, Hummingbirds leave, and the most of them go to Central and South America for the winter, crossing the Gulf of Mexico as they do so, where it is from 700 to 900 miles in width. The male is much more brilliantly colored than the female or young.

KINGBIRD

TYRANNUS TYRANNUS (*Linnæus*)

A. O. U. Number 444

OTHER NAMES.—Field Martin; Bee Martin; Beebird; Tyrant Flycatcher.

GENERAL DESCRIPTION.—Length, 8 inches. Upper parts, black and gray; under parts, white. Tail, square or slightly rounded.

NEST AND EGGS.—Nest: Frequently in the orchard, sometimes in tall sycamores near streams, a substantial structure of twigs, weed stalks, grass, roots, particles of wool and down well combined and symmetrically edged, lined with feathers, horse-hair, fine rootlets, and wool. Eggs: 3 or 4, white to pale pink with strong bold spots of umber and chestnut.

DISTRIBUTION.—North and South America; breeds from southern British Columbia, southern Mackenzie, southern Keewatin, northern Ontario, central Quebec, and Newfoundland south to central Oregon, northern New Mexico, central Texas, and central Florida; winters from southern Mexico to Colombia, British Guiana, Peru, and Bolivia; casual in Cuba in migration; accidental in Greenland.

For its size the Kingbird is one of the bravest birds in all the country. Most birds have a very great fear of Hawks, and with good reason, for Hawks are continually killing them. At the first sight of one of these fierce pirates of the air the small birds as a rule dash in terror to the cover of the nearest bush. The Kingbird is the one notable exception to the rule. Mounting in the air with brave twitterings he dashes at his enemy and attacks so fiercely that the larger bird quickly leaves the neighborhood. Likewise he assails every Crow that comes near his nest. He will pursue such great birds as Turkey Vultures, and on rare occasions even

Courtesy of Outing Publishing Co.

AN ENTIRE KINGBIRD FAMILY
From a photograph by H. K. Job

alight on their backs and appear to hold on by firmly seizing a feather. Under such astonishing treatment from such a little bird the great Vulture flaps its wings as if in the wildest panic, while it strives with all its power to escape from its tormentor.

Kingbirds spend much of their time perched on stakes, poles, or treetops, where they can watch for such insects as are so unfortunate as to fly near their watch-towers. The nest of this interesting bird is usually built in an apple-tree or other tree of small size. In the South the nests are often placed in bushes growing in ponds or shallow lakes.

This bird has been accused of destroying honey bees, but investigations have proved that the percentage of bees eaten is very low, and most of them were drones.

Phœbe

Sayornis phœbe (*Latham*)

A. O. U. Number 456

Other Names.—Phœbe Bird; Pewee; Bridge Pewee; Water Pewee; Barn Pewee; Bean Bird; Pewit Flycatcher; Dusky Flycatcher.

General Description.—Length, 7 inches. Upper parts, grayish-olive; under parts, yellowish-white. Crown-feathers, erectile; tail, emarginate.

Nest and Eggs.—Nest: Beneath barn eaves, bridges, culverts, ledges, in fact nearly anywhere that affords protection from the weather; constructed of mud, grass, vegetable fibers, lined with some hair, grass and feathers, and nearly always decorated exteriorly with green moss. Eggs: 3 to 8, normally 5, pure white, rarely speckled at large end with brownish.

Distribution.—Eastern United States and more southern British Provinces; north to Maine, northern New York (Adirondack region), northwestern Ontario; Keewatin and southern Mackenzie; west, at least occasionally, to Athabasca (Little Slave Lake), eastern Wyoming, eastern Colorado, northeastern New Mexico, and western Texas; breeding southward to highlands of South Carolina, Louisiana, etc.; winters chiefly within the United States (mostly south of 37°) but migrating to Cuba and eastern and central Mexico; accidental in southern California.

In western North America this bird is replaced by Say's Phœbe and Black Phœbe.

The Phœbe shares with the House Wren and the Robin the comforts and protection that may be found in living close about the house and barn. You may see it first some spring morning perched on the veranda railing, and a few weeks later watch the building of its nest on a plate-rail supporting the rafters of the veranda roof. Or again the nest may be in the barn or other outbuilding. It likes bridges also, and in the Northern States there is hardly a creek or ravine bridge without its pair of Phœbes. The "phoe-be" notes of this bird are not so sad as the cries of the Wood Pewee, which it much resembles and for which it may easily be mistaken. In fact, its call has a quality that seems to indicate resentment, as though the bird was cross and at outs with everybody it knows.

Courtesy of American Museum of Natural History

PHŒBE

When the four or five white eggs are hatched the Phœbe parents have a very busy time of it finding enough insects to satisfy their appetite for food. At first the mother covers them at night, but in a few days they grow so large that the nest is

quite filled without her. Look at a Phœbe's nest some night with a light and see if you can catch the young ones asleep!

Wood Pewee

Myiochanes virens (*Linnæus*)

A. O. U. Number 461

Other Names.—Pewit; Pewee Flycatcher.

General Description.—Length, 6¼ inches. Upper parts, olive; lower parts, grayish-olive and yellowish-white. Tail, emarginate.

Nest and Eggs.—Nest: Usually saddled on the horizontal limb of a deciduous tree, in clearings or edge of deep woods, from 10 to 60 feet up; shallow, constructed of fine grasses, strips of bark, bits of vegetable or moss fibers, decorated exteriorly with lichens fastened with cobwebs, with thick felted sides and thin bottom; indistinguishable from a knot or branch. Eggs: 2 to 4, commonly 3, creamy white with a wreath of chestnut, warm brown, and lavender around large end.

Distribution.—North and South America; breeds from Manitoba, Ontario, southern Quebec, and Prince Edward Island to southern Texas and central Florida, west to eastern Nebraska; winters from Nicaragua to Colombia and Peru; casual in Colorado; accidental in migration in Cuba.

Replaced in western North America by the Western Wood Pewee.

This little flycatcher lives from choice where the trees are old and large. In the deep woods where the ferns grow underneath and the limbs meet overhead the Wood Pewee finds its ideal home. Here you may find it any summer-day quietly on watch for passing insects. Its favorite perch is on a dead twig or bare end of some drooping limb. So constantly does it sit in such places that many boys call it the "Dead Limb Bird."

WOOD PEWEE

From a drawing by R. I. Brasher

Its cry is one of the first notes of the morning, and all day long it mingles with the other sounds of the woodland. "Pe-wee-e, pe-wee-e!" with sweet plaintiveness it comes through the lights and shadows of the forest until evening has fallen.

The Wood Pewee lives also in the park, on the college campus, or in fact almost any place where large forest trees are found. Its nest is small and flat. It rests on a limb from fifteen to fifty feet from the ground, and

is so well hidden that discovery is rare, except when watching the visits of one of the parent birds. It takes a sharp eye, indeed, to find a Wood Pewee sitting motionless on its nest perched on a limb forty feet from the earth.

Horned Lark

Otocoris alpestris alpestris (*Linnæus*)

A. O. U. Number 474

Other Names.—Northern Horned Lark; Winter Horned Lark; Shore Lark; Prairie Bird; Road Trotter; Wheat Bird; Spring Bird; Life Bird.

General Description.—Length, 7¼ inches. Upper parts, pinkish-brown; under parts, white; a black crescent under each eye, and a third one on the breast.

Nest and Eggs.—Nest: On ground among moss or tuft of grass; constructed of grass and lined with finer blades and feathers. Eggs: 3 or 4, greenish-gray, thickly spotted with dark olive and pale lavender.

Distribution.—Breeding in northeastern British America, east of Hudson Bay, from Newfoundland, Labrador, and head of James Bay northward; in winter migrating west to Manitoba and the Mississippi valley (eastern portion, chiefly) and southward to Illinois, Ohio, and the Carolinas, casually to Louisiana and the Bermudas; accidental in Greenland.

Fourteen varieties or sub-species of the Horned Lark are recognized in North America.

The Skylark of Europe and Northern Africa is a songster whose reputation is worldwide. It has been introduced into this country several times, but all the birds liberated soon disappeared. Closely related to it, although not so famous as a singing bird, is the Horned Lark. In summer it is found in Newfoundland and throughout northern Canada, where its nest is placed on the ground, generally in open places.

Courtesy of American Museum of Natural History

HORNED LARK

In the United States we see the Horned Lark only in the winter. Even when the intense cold of the north drives it to take refuge in our warmer climate, it is rarely found farther south than the State of Georgia. The birds come to us in flocks of from a dozen to a hundred or more, and sometimes fly and feed with other northern birds, as for example, the Snowflake. These flocks frequent the region of the sea-coast, and especially in the southern half of their winter range are found inland. While feeding, they scatter about the field, walking along in a very pretty and dainty manner. In taking flight, the flock reunites; and, rising with clear, whistling notes, flies to a neighboring field to continue the search for food.

Magpie

Pica pica hudsonia (*Sabine*)

A. O. U. Number 475

Other Names.—American Magpie; Black-billed Magpie.

General Description.—Length, 19½ inches. Plumage, black with white on shoulders and abdomen. Tail, much longer than wing, graduated for ½ or more of its length; wing, short and rounded; feet, stout.

Nest and Eggs.—Nest: The nest proper, a bowl of mud and grass, surrounded and arched by an immense number of large and small sticks, is often the size of a barrel. Entrance, a hole on the side. They are located in bushes or trees from 5 to 60 feet up, and with the bristling array of sticks pointing in all directions present a formidable appearance. Eggs: 6 to 9, usually 7, pale grayish or greenish, regularly and heavily blotched with shades of brown and purple, sometimes hiding the ground color.

Distribution.—Treeless or more sparsely wooded districts of western North America, except coast and interior valleys of California; north to northwestern Alaska; south to southern Arizona, New Mexico (where breeding at 7,000 to 12,000 feet), and western Texas; east to western portion of the Great Plains, and to Lake Winnipeg; rare or casual winter visitant or straggler to southwest side of Hudson Bay, Ontario, Michigan, northeastern Illinois, Wisconsin, Minnesota, Iowa, eastern Nebraska, etc.

MAGPIE

From a drawing by R. Bruce Horsfall

When in 1804 the explorers Lewis and Clark ascended the Missouri River and traversed over our newly acquired Northwest country they discovered the American Magpie, the existence of which was at that time

unknown. Their account describes these birds as "familiar and voracious." We are told that they penetrated the tents and snatched meat from the dishes. While the hunters were dressing their game the Magpies would seize the meat hanging within two feet of the men.

This, the largest of all our Jays, is a familiar figure in western United States and Canada. In the fields and along roads in the open country one may see them flying low and rather heavily from one clump of trees to another. Near Burns, Oregon, I counted thirty-one of these great long-tailed birds in a flock. Such numbers seen at one time, it may be added, is an unusual sight.

The nest is built in low trees and is a large affair. One the writer examined in northern California was at least two feet in diameter. It was made of a great collection of thorny twigs. The cup for the eggs was lined with grass and was situated in the center of the nest entirely concealed from view by the dome of twigs above.

Magpies are unpopular with stockmen and ranchers, who accuse them of attacking sick or wounded animals in a most savage fashion. In addition to the common Magpie of the West there is another species known as the Yellow-billed Magpie of California.

Blue Jay

Cyanocitta cristata cristata (*Linnæus*)

A. O. U. Number 477

Other Names.—Corn Thief; Nest Robber; Blue Coat; Jay; Common Jay.

General Description.—Length, 11½ inches. Upper parts grayish violet-blue; under parts, gray and white. Head, conspicuously crested; wings and tail, about equal in length, and rounded.

Nest and Eggs.—Nest: Located in conifers or deciduous trees, preferably the former, particularly cedars; a loose, carelessly constructed affair, with ragged rim, though some are fairly well made of sticks, leaves, bark strips, weed stems, lined with strips of bark, grass, pine-needles, rags, paper, string or any material that seizes the bird's fancy. Eggs: 3 to 6, pale dull olive, greenish-olive, or dull buffy, spotted or blotched with dark olive-brown; one brood only.

Distribution.—Temperate eastern North America, except peninsula of Florida; north on Atlantic coast to Nova Scotia, Prince Edward Island, New Brunswick (resident), etc., in the interior to about latitude 52°, casually 56°; west to eastern Assiniboia, eastern North and South Dakota, eastern half of Nebraska, eastern two-thirds of Kansas, eastern Oklahoma, and eastern half (approximately) of Texas; south to the Gulf coast. Replaced in Florida by the Florida Blue Jay.

A most noisy, happy-go-lucky bird is the Blue Jay. In bands of from six to fifteen or twenty, he and his friends travel through the tree-tops, from one grove to another. As they go they eat beech nuts, acorns and other food that pleases their taste. Their shouts of "jay, jay!" can be heard far across the fields on a calm day. It is a sad fact to relate, but

it is true, that this beautiful blue and white creature at times eats the eggs and young of other birds.

There is one period of the year when the Jays are very quiet. That is when they have their own nest to guard. Being the enemy of so many birds, they appear to trust no one. They approach and leave their nests with the greatest stealth, and never think of shouting "jay!" when near their own precious eggs.

Jays delight in teasing other birds. The Screech Owl, found asleep on some sheltered leafy limb, is the signal for all the Jays of the neighborhood quickly to assemble and mob him. How they do shout and fly at him as if to strike him with their bills! Sooner or later the poor Owl must fly away and hide in some hole. If it did not, the Jays would perhaps tease it until nightfall.

Crow

Corvus brachyrhynchos brachyrhynchos *Brehm*

A. O. U. Number 488

Other Names.—American Crow; Common Crow; Carrion Crow.

General Description.—Length, 19¾ inches. Plumage, black. Wing, long and pointed; tail, much shorter than wing; bill, compressed and higher than broad; feet, stout.

Nest and Eggs.—Nest: Usually at good height in conifers and other trees, sometimes 75 feet from ground; a well-made, but coarse, structure of sticks, twigs, grasses, tree bark, very often thickly and evenly lined with soft inner bark of chestnut, basswood, or other dead trees, giving the interior a warm, yellowish-brown color; fine roots, straw, wool, or hair are also used for linings. Eggs: 4 to 8, from pale bluish-green to olive-green or greenish-buff, irregularly spotted and blotched with brown and olive-gray.

Distribution.—Temperate eastern North America, except peninsula of Florida; north on Atlantic coast to Newfoundland and Magdalen Islands (southern Labrador?), on west side of Hudson Bay to Nelson River, and in the interior nearly to the Arctic coast; west to the beginning of the arid region. Replaced in Florida peninsula by the Florida Crow, and in western North America by the Western Crow.

The Crow is the smartest bird in North America. There is no law that protects him, and it is hard to find a farmer who does not shoot a Crow when he gets a chance. The old black bird has few friends. Still, his numbers do not seem to decrease. He can take care of himself so well that with all the world against him, he thrives and increases.

A crow will pull up sprouting corn in fields, steal hens' eggs, dig holes in watermelons, and engage in many other tricks that have caused him to be unpopular. So much complaint arose regarding his bad habits, our Government decided to take up the matter of finding out all about it, and of seeing just what he does eat. Trained naturalists carefully investigated over a period of years, and then to the surprise of almost everybody they reported that this bird was not as bad as had been thought. He

eats many grubs and insects, and on the whole does much more good than harm.

When taken young, Crows are sometimes tamed and become most amusing pets. These birds breed in the early spring, and hide their nests in high trees.

Bobolink

Dolichonyx oryzivorus (*Linnæus*)

A. O. U. Number 494

Other Names.—Skunk Blackbird; Skunk-head Blackbird; White-winged Blackbird; Meadowwink; Towhee (mistake); Rice-bird; May-bird; Reedbird; Butter-bird (Jamaica, B. W. I.); Meadow-bird; American Ortolan; Bob-lincoln; Robert.

General Description.—Length, 7 inches. Males in the spring and summer have the upper parts black and white and the lower parts black; males in the fall and winter and females all the year have the upper parts buffy-olive streaked with black, and the lower parts, pale buffy-olive. Wings, long and pointed; tail, shorter than wing with stiff, acute feathers; bill, conical and sharp.

Nest and Eggs.—Nest: Wonderfully concealed in a depression of ground in meadows; constructed of dried leaves, weed stems, coarse grass, and lined with finer grasses. Eggs: 4 to 7, pale drab, pear-gray or pale rufous, irregularly splashed and spotted with erratic lines and marks of umber, chestnut, lavender, and deep purple.

Distribution.—Eastern and central temperate North America; breeding from Pennsylvania, northwestern West Virginia, central Ohio, central Indiana, northern Illinois, southern Iowa, South Dakota, and Utah, northward to provinces of Quebec, Ontario, Manitoba, Assiniboia, and British Columbia (both sides of Cascade range), to about 40° on the Atlantic coast and 52° in the interior; west to Utah, northeastern Nevada, Idaho, and southeastern British Columbia; during migration southward through the West Indies, and the Atlantic coast of Central America to South America; also to the Galapagos Archipelago and the Bermudas.

In early summer the Bobolink takes possession of the northern meadows. The male with his striking black, white and yellow plumage is sure to be in evidence if you come any place near him. His loud rollicking music comes to you from many quarters. Down on the ground, hidden securely in the grass, sits his plain colored mate, brooding her eggs, and no doubt enjoying the music quite as well as anyone.

Before the summer is over the Bobolink and his family leave their meadow home. True to the habits of the Blackbird group, of which he is a member, he gathers with hundreds of others of his kind and moves to the wild-rice marshes of the coast country. He has now lost his bright spring plumage and closely resembles the female and young.

In Delaware, Maryland, and northern Virginia, where the birds are often shot for food, they are known as "Reed-birds." A little farther south the migrating flocks reach the rice-fields. Here they are called "Rice-birds." Continuing southward, the Bobolinks journey on to the land of central South America, there to remain until the approaching spring in their northern home again calls them on the long return journey.

Cowbird

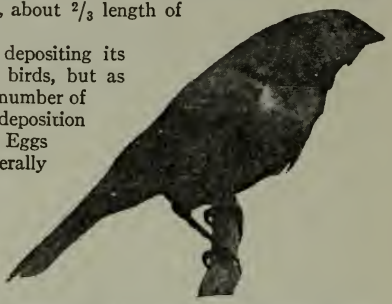
Molothrus ater ater (*Boddaert*)

A. O. U. Number 495

Other Names.—Cow Blackbird; Cow Bunting; Lazy Bird; Brown-headed Blackbird; Cuckold; Cow-pen Bird; Buffalo Bird; Brown-headed Oriole.

General Description.—Length, 8 inches. Males are greenish-black with brown fore parts; females are brownish-gray. Bill, shorter than head, conical, and compressed; wings, moderately long and pointed; tail, about $^2/_3$ length of wing, even or slightly rounded.

Nest and Eggs.—A noted parasite, depositing its eggs, usually singly, in nests of smaller birds, but as many as five have been found in one nest; number of eggs unknown and the circumstances of deposition render a correct conclusion impossible. Eggs are white, spotted and blotched pretty generally over entire surface with chestnut and burnt-umber.



Courtesy of American Museum of Natural History

COWBIRD

Distribution.—Temperate North America in general, except portions of Pacific coast; north to about 49° in more eastern portions, to 55° 30′ in the interior; west to British Columbia, Washington, Oregon, Nevada, and southeastern California; south in winter to central and southeastern Mexico; breeding south to Georgia, Louisiana, and Texas.

This is the "black sheep" of the bird-world. The Cowbird possesses none of the charming manners we so much admire in bird-life generally. The male has no song, but a series of gurgling notes that are without beauty of sound or interest. They do not mate like other birds, but stay in companies and wander about through the fields and woods. The females do not have nests, but during the spring slip away from their companions, one at a time, to lay their eggs in the nests of other and smaller birds.

The young when hatched are larger than the rightful bird babies of the nest, and by reaching farther and begging louder are able to get most of the food that the old birds bring. This causes them to grow so fast that they are soon able to crowd the other young out of the nest. For a long time they follow their foster-parents about, and beg for food after they are twice the size of the poor little Warbler, or perhaps Song Sparrow mother that has hatched them. While seeking their food, Cowbirds are often found with cattle, and appear to catch insects that fly about the cows' legs.

Red-Winged Blackbird

AGELAIUS PHŒNICEUS PHŒNICEUS (*Linnæus*)

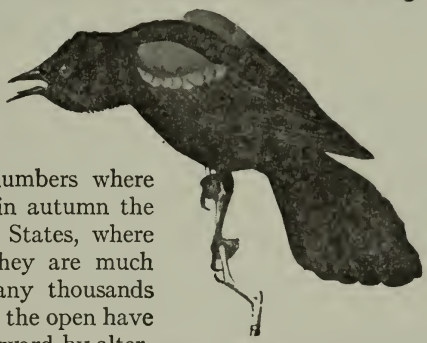
OTHER NAMES.—Swamp Blackbird; Red-winged Starling; Red-shouldered Starling; Red-shouldered Blackbird; Marsh Blackbird; Red-winged Oriole; Red-wing.

GENERAL DESCRIPTION.—Length, 8½ inches. Males are black with red shoulders; females are dusky above and whitish below with streaks of dusky. Bill, shorter than head; wings, rather long and pointed; tail, ¾ or more as long as wing, and rounded.

NEST AND EGGS.—Nest: In bushes or small trees, but usually in reeds which are interwoven between the outside layer of sedge-grass of which the nest is composed; sometimes in the center of a tussock close to the ground, but usually two or three feet above it, and always in swampy places. Eggs: 3 to 6, usually 5, pale bluish or greenish-white, marked with pen lines of sepia or dark reddish-brown, arranged in a wreath around large end or scattered over entire surface.

DISTRIBUTION.—Eastern United States and more southern British Provinces to about latitude 62°, except Florida and Gulf coast; west to eastern base of Rocky Mountains. Other varieties of the Red-winged Blackbird extend the range over all of United States and southern Canada.

IN REALITY the name of this bird does not describe it very accurately. The black male has a red patch of feathers on its "shoulders" or wing-coverts, but the whole wing is not red. The female is a smaller, plainly streaked bird. In the nesting season these are inhabitants of the marshes, and even afterward they frequent such regions in large numbers where they feed on wild rice. Early in autumn the flocks depart for the Southern States, where they pass the winter. Here they are much seen in the upland fields. Many thousands congregate, and when feeding in the open have the peculiar habit of moving forward by alternately flying and walking. Those at the rear continually rise and fly over their feeding companions only to light in front of them. At a distance the flock presents much the appearance of a black feathered hoop slowly rolling across the field.



RED-WINGED BLACKBIRD
FROM A DRAWING BY
R. I. BRASHER

There is always much life about a nesting colony of Redwings, much calling and chattering, and through it all over and over all day long there rings the "King-quer-ree!" the song of the handsome males. In the nest hung among the rushes you may find four or five pale blue eggs streaked and scratched with black markings, as if the mother bird had come home some day with fresh ink upon her toes.

Meadowlark

Sturnella magna magna (*Linnæus*)

A. O. U. Number 501

Other Names.—Common Lark; Old Field Lark; Field Lark; Marsh Quail; Medlark; Mudlark; Medlar; Crescent Stare.

General Description.—Length, 10½ inches. Upper parts, brown streaked with black; under parts, black and yellow. Bill, long and slender; wings moderately short; tail, short, with the feathers pointed; legs and toes, long.

Nest and Eggs.—Nest: Artfully concealed beneath tuft of clover, sedge or grass; constructed of stems and coarse grass, and lined with fine blades; usually with covered, arched entrance to which a short winding path leads. Eggs: 4 to 6, crystal white, thickly or thinly spotted with chestnut and reddish-brown; a second nesting not uncommon and probably usual.

Distribution.—Eastern United States and British provinces north to 54° and as far west as Great Plains. Not strictly migratory, often wintering as far north as lower New England States. Replaced in Arizona, southern New Mexico, and southern Texas by the Rio Grande Meadowlark; in southeastern United States from southern Illinois, southwestern Indiana, and North Carolina to the Gulf coast by the Southern Meadowlark; and in western North America by the Western Meadowlark.

The clear, undulating song of the Meadowlark gives much added beauty to the farm-lands. Going toward the spot whence the sounds come, you will find the singer standing on a fence post, stump, or low tree, his bright yellow breast making a shining mark in the sunshine. Upon too near approach he flies to the ground, and although the place where he alights may be in the open, he at once disappears. This is because his yellow breast is no longer visible, and as he walks away the black-streaked plumage of his head, neck, and tail so closely blend with the surroundings that it is hard to detect him. This is one of Nature's ways of protecting ground living birds, for let a Hawk fly over and Mr. Meadowlark squats close to the earth, and the winged death passes on. In days gone by these birds were much shot for food in the Southern States, where they are very numerous, especially during the colder months of the year, but now the bird is protected by law.

The Meadowlark's nest is hidden in the grass of pastures and fields, or in the open pine woods. Among its enemies may be mentioned Hawks, Foxes, Skunks, Opossums, and Snakes. In the Western States, the Western Meadowlark has even a more beautiful song than the Eastern bird, and gives much pleasure to children about the lonely ranch houses.

DOWNY WOODPECKER (1/2 nat. size)

RED-HEADED WOODPECKER (7/16 nat. size)

FROM DRAWINGS BY R. I. BRASHER

FLICKER (3/8 nat. size)

WHIP-POOR-WILL (3/10 nat. size)

FROM DRAWINGS BY R. I. BRASHER

BOBOLINK (1/2 nat. size)

MEADOWLARK (3/10 nat. size)

FROM DRAWINGS BY R. I. BRASHER

BLUE JAY (3/10 nat. size)

CROW (1/6 nat. size)

FROM DRAWINGS BY R. I. BRASHER

Baltimore Oriole

Icterus galbula (*Linnæus*)

A. O. U. Number 507

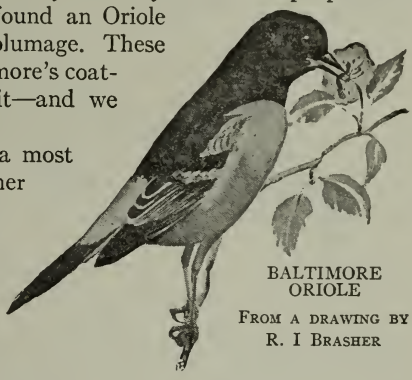
Other Names.—Golden Robin; English Robin; Hang-bird; Hang-nest; Fire-bird; Pea-bird; Hammock-bird; Golden Oriole; Baltimore Bird.

General Description.—Length, 8 inches. Fore and upper parts, black; under parts, orange. Bill, long and pointed; wings, moderately long; tail more than ¾ length of wing.

Nest and Eggs.—Nest: A remarkable example of bird craftsmanship. Suspension strings are first firmly tied to the branches, these forming the warp through which the plant fibers, milk-weed stalks, gray strips of bark, horse-hair, or cord, are deftly woven. The completed structure is gourd-shaped, flaring at bottom and always gray-colored. Extreme ends of large elms are oftenest selected for the site, but nests are found on a large variety of trees, even the conifers. The perfection of their workmanship is proved by the fact that these homes sometimes endure the blasts of four winters. Eggs: From 5 to 6, white with characteristic pen lines, scrawls, and spots of dark brown and black of the species.

Distribution.—Eastern temperate North America; breeding from more southern United States (Texas to the Carolinas), except along the Gulf coast, northward to Nova Scotia, southern New Brunswick, Ontario, and Manitoba (to latitude 55°); west to eastern Assiniboia, Montana, Wyoming, and Colorado, east of the Rocky Mountains; in winter south through eastern Mexico and Central America to Colombia and Venezuela; accidental in Cuba.

In the year 1632 the King of England granted to an Irish peer, Lord Baltimore, a charter to found a colony in Maryland. The people who came to live in his settlement found an Oriole that was black and yellow in plumage. These were the two colors on Lord Baltimore's coat-of-arms, so the settlers called it—and we still call it—the Baltimore Oriole.



BALTIMORE ORIOLE

From a drawing by R. I Brasher

The female of this species is a most wonderful weaver. She builds her nest of grass, hair, strings, and strips of bark well out on the end of a long drooping limb. It is a hanging nest, and with her sharp bill the mother sews its walls through and through and round and round with the long grass-blades or strings she uses. Of all cradles that rock when the wind blows, there is none that swings and dips like the Oriole's hammock nest.

These birds are fond of orchards, and especially frequent the shade trees bordering country roads and quiet village streets. Sometimes people

hang up bright-colored yarns where these birds can get them, which results in having a very bright-colored nest built in their yard.

Orioles consume many harmful insects, and feed their young with untold numbers of caterpillars, which makes them very valuable allies of the farmer.

Purple Grackle

Quiscalus quiscula quiscula (*Linnæus*)

A. O. U. Number 511

Other Names.—Blackbird; Crow Blackbird; New England Jackdaw; Maize Thief; Keel-tailed Grackle; Purple Jackdaw.

General Description.—Length, 12½ inches. Plumage, black with metallic hues. Bill, about as long as head and decurved at tip; tail, long and graduated. The tail is plicate, or capable of being folded vertically, so that a transverse section is V-shaped, the two edges being brought near together when flying; because of this folding and the graduated form of the tip, the effect when the bird is flying is very peculiar, the tail appearing as if much longer on one side than on the other.

Nest and Eggs.—Nest: Built preferably in a conifer, placed on a bough but often in fork formed by topmost whorl of branches; sometimes in hollows or cavities of trees near water; a loose, bulky structure of twigs, hay, and grains, frequently cemented with mud. From Kent, Conn., comes the report of the finding of the nest of this bird in the rushes of a marsh, a very unusual site. Eggs: 4 to 6, greatly varying in size and color; ground color greenish-blue to dirty brown, strongly marked with blotches and zigzag streaks or lines of brown and black.

PURPLE GRACKLE

From a drawing by R. I. Brasher

Distribution—Atlantic coast district of United States, east of Alleghenies; north to lower Hudson valley and northern shore of Long Island Sound; breeding south to uplands of Alabama, Georgia, and the Carolinas, to Virginia (?) along the coast; occasional on western side of Alleghenies, in eastern Tennessee; winters mainly south of the Dela-

ware valley. Replaced in the coastal plain from South Carolina to Florida and west to Texas by the Florida Grackle, and in central and northeastern North America by the Bronzed Grackle.

Among the first birds of spring to arrive in the North are the black, shiny Purple Grackles. They come in droves, and their harsh notes are heard as they fly low over the trees or feed in the fields. At times they will walk about on the lawn or in the garden.

In colonies of from six to a dozen or more they come together when the nesting period approaches. In some groves, often of pines, they build their nests of sticks and grass. Now and then a nest is made in the natural hollow of a tree, or even in an unused Flicker's nest. The eggs are four to six in number. In color they are pale bluish, and are scratched and spotted with black and brown.

No song comes from the Grackle's throat, and he shows little of the emotions that other birds display. Approach the nest, and the parents exhibit some resentment, it is true, but it is harsh and threatening, rather than pleading in character.

After the breeding season the old flock life is renewed, and bands of Grackles wander about the country, apparently in a more or less aimless manner. They assemble in large numbers to pass the night. Such roosts are often occupied for weeks at a time. Groves and shade trees in villages or along quiet streets are often used for this purpose.

Purple Finch

Carpodacus purpureus purpureus (*Gmelin*)

A. O. U. Number 517

Other Names.—Purple Linnet; Purple Grosbeak; Red Linnet; Gray Linnet (immature and female).

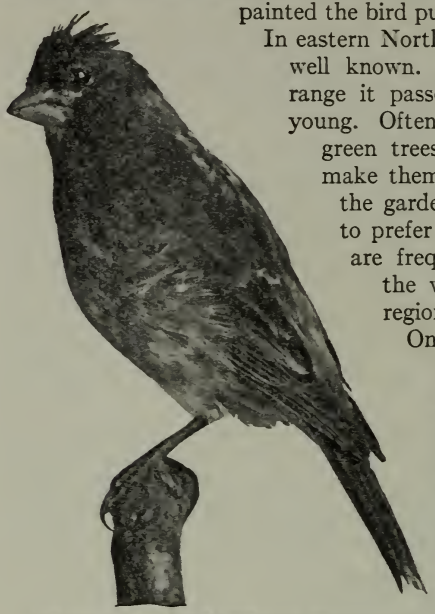
General Description.—Length, 6¼ inches. Male, pinkish-purple and brown; female, olive-grayish above, and white below, conspicuously streaked above and below. Bill, shorter than head, conical, and thick; tail, about ¾ length of wing, deeply emarginate.

Nest and Eggs.—Nest: Usually placed in conifers; a frail open-work structure of grass rootlets, bark strips, vegetable fibers, thickly lined with hair; resembles a Chipping Sparrow's nest, but larger. Eggs: 4 to 6, dull greenish-blue, spotted with shades of brown, black, and lilac.

Distribution.—Eastern North America; breeding from Pennsylvania (especially in mountains), northern New Jersey, Connecticut, southern Ontario, northern Illinois, Minnesota, and North Dakota, north to more eastern British provinces, Hudson Bay, Manitoba; in winter south to Gulf coast.

The Purple Finch is not at all purple; the male is of an old-rose color, and the female has the general sparrow-like appearance found in several of our birds where the males are brightly colored. A long time ago the

bird was named from a painting that some one made of it. This manner of naming the bird would probably have been all right had not the artist painted the bird purple instead of its true color.



Courtesy of American Museum of Natural History
PURPLE FINCH

In eastern North America the Purple Finch is well known. In the northern part of its range it passes the summer and rears its young. Often the nests are built in evergreen trees on the lawn, and the birds make themselves very much at home in the garden. While many of them seem to prefer to live near the house, others are frequently contented to dwell in the wildest and most uninhabited regions of the mountains.

On the whole, the bird is very much liked, yet many people would prefer that it did not have such a strong liking for the buds and blossoms of fruit trees.

Purple Finches winter in the Southern States, where they wander about in flocks, and seldom display for long a liking for any one neighborhood.

Crossbill

Loxia curvirostra minor (*Brehm*)

A. O. U. Number 521

Other Names.—American Crossbill; Red Crossbill; Common Crossbill.

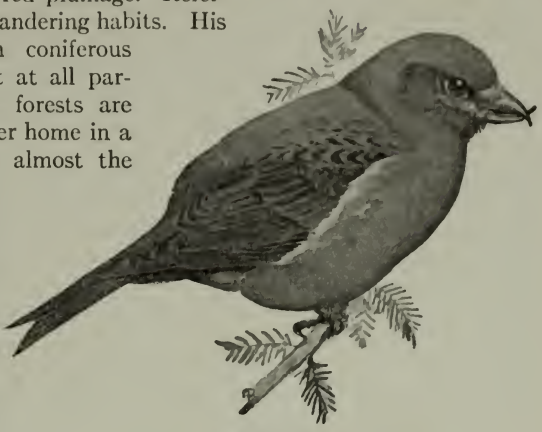
General Description.—Length, 6 inches. Male, dull red; female, grayish-olive. Bill, with the tips crossed in adults; wings, long and pointed; tail, short, narrow, and deeply forked.

Nest and Eggs.—Nest: Placed like the White-winged Crossbill's, in conifers, usually within 20 feet of the ground; outside "wall" constructed of evergreen twigs, shreds of bark, rootlets with a thick lining of moss, leaves, grass, cottony fibers well felted together, and generally some green bits of hemlock or cedar tips. Eggs: 3 to 4, pale greenish, specked and spotted with shades of brown and purplish gray.

Distribution.—Northern and eastern North America, breeding in coniferous forest districts from southern Alleghenies in northern Georgia (sporadically toward coast in Maryland, Virginia, etc.), Michigan, etc., to Nova Scotia, to Fort Anderson in the interior, and to western Alaska, and southward through Pacific coast district to western

Oregon: in winter irregularly southward to South Carolina (vicinity of Charlston), Louisiana, Nevada, etc: casually to the Bermudas.

THE Crossbill is the tramp among birds. This is not meant to suggest that he presents a ragged appearance, for he is quite a neat and handsome bird in his dull red plumage. Reference is made to his wandering habits. His natural home is in coniferous forests, but he is not at all particular where these forests are situated. His summer home in a general way is over almost the whole of Canada and along the tops of the southern mountains to Georgia. In flocks they go from one feeding ground to another. Sometimes they will remain in a given section for several weeks, and again will stay for only a day or two.



CROSSBILL

FROM A DRAWING BY R. I BRASHER

The American Crossbill has a short call-note in the form of a low whistle that is often heard as the birds feed. Much of their food consists of the seeds of the pine. Their bills are sharply crossed near the tips, which enable them very easily to pry apart the scales of the pine cones.

In winter these birds wander southward, and may possibly appear in almost any neighborhood in the United States. However, their coming and going is so erratic that there are many prominent bird students in the country who have never yet been so fortunate as to see one alive.

GOLDFINCH

ASTRAGALINUS TRISTIS TRISTIS (*Linnæus*)

A. O. U. Number 529

OTHER NAMES.—Yellow-bird; Thistle Bird; Wild Canary; Catnip Bird; Lettuce-bird; Shiner; Salad-bird; Beet Bird; American Goldfinch.

GENERAL DESCRIPTION.—Length, 5 inches. Male in summer has the body lemon-yellow and the wings and tail black; male in winter and female at all seasons have the upper parts olive-brownish and the under parts grayish-white with the wings and tail blackish. Bill, small, conical, and acute; wings, long and pointed; tail, rather short and forked; legs, short.

NEST AND EGGS.—Nest: Placed in forks of bush or sapling, sometimes on the swaying stalk of a wild blackberry, usually within 5 feet but sometimes 30 feet from the ground; a compact, artistic structure of felted plant-down, mosses, grass, leaves, bark strips, usually lined with thistledown; build later than any other birds, from last week in June to second week in September; sometimes reconstruct old Blackbird or other nests, the added material being principally a heavy lining of down. Eggs: 3 to 6, sets of 5 and 6 being common, pale bluish white, unmarked.

DISTRIBUTION.—United States and more southern British provinces east of Rocky Mountains, north to Manitoba, Ontario, Quebec, southern Labrador, and Newfoundland, breeding southward to the middle districts of the United States; wintering southward to Gulf coast. Replaced in the Rocky Mountain plateau by the Pale Goldfinch, and in the Pacific coast region by the Willow Goldfinch.

IN THE spring, when the dandelion blossoms are turning into white puffy balls by the roadside, a small flock of birds will be discovered feeding on them. Many of these are brilliant yellow with black on the wings, crown, and tail. These are Goldfinches, and the more brightly colored ones are the males, which at this time are very brave and handsome in their new spring suits. Late in the summer, when in your garden the sunflower seeds are ripe, you are pretty sure to have a visit from the cheerful twittering Goldfinch. Generally they come and go in small companies. Only during the nesting period do they stay in pairs.

Like the Cedar Waxwing, these birds breed late in the season. Usually it is late in June or July before a search for one of their nests will be successful. When found, often by watching the birds carrying food for their young, it is usually in a low bush, or perhaps an orchard tree. The nest is a very compact one. It is made of grass and plant-down, and altogether must form a very soft and comfortable cradle for the four or five bird babies that will soon be lying in it.

Goldfinches eat a wide variety of seeds and insects. In winter they range all over eastern and central United States, and are always very interesting and attractive birds.

ENGLISH SPARROW

PASSER DOMESTICUS DOMESTICUS (*Linnæus*)

OTHER NAMES.—European House Sparrow; Gamin; Tramp; Hoodlum; Domestic Sparrow.

GENERAL DESCRIPTION.—Length, 5¾ inches. Upper parts, reddish-brown, streaked with black; under parts, grayish-white. Bill, stout, shorter than head; wings, of medium length; tail, about ¾ length of wings; legs, short and rather stout.

NEST AND EGGS.—Nest: Occasionally built in trees, more often in bird-houses, electric-light hoods, cornices, water-spouts, and similar places; tree-nests large and covered, others open; made of grasses or any easily obtained material, loosely put together, and lined with feathers. Eggs: 4 to 7, generally white, finely and evenly marked with olive, but also varying from plain white to almost uniform olive brown; two broods at least in a season, usually three, and sometimes four and even five.

DISTRIBUTION.—Europe in general, except Italy; introduced into the United States, where thoroughly and ineradicably naturalized in all settled districts, except southern Florida and a few other extreme outposts; also introduced into Bahamas (island of New Providence), Cuba, Nova Scotia, Bermudas, and southern Greenland.

ALMOST every variety of small wild bird found commonly in western Europe has been brought to the United States and liberated with the hope that it would live here and increase in numbers. All such birds have perished, however, except the Starling and House Sparrow, or "English Sparrow," as we call it. The first English Sparrows were brought to this country in the year 1850 and given their freedom in Brooklyn, New York. Many other shipments followed. The Sparrows did well, and are now common birds in almost all localities in the United States, especially about cities, towns, and farms. They have turned out to be a great nuisance, and but few people care for them. They are noisy and dirty in their habits. They fill gutters with their nests, that wash down and clog drain pipes. Sparks often catch in their nests under the eaves of houses and cause destructive fires. They do not sing, and what is worse, often drive out of a neighborhood most of the singing birds that would like to live there. They multiply rapidly, as a pair will often rear three broods of young in a year, and they lay from four to seven eggs in each nest. They eat seeds, garden vegetables, and some insects. English Sparrows are not protected by law. In neighborhoods where English Sparrows abound, bird-houses should be built without a perch in front of them, as these "ragamuffins" delight to sit on such a perch and annoy the tenants of the house.

WHITE-THROATED SPARROW

ZONOTRICHIA ALBICOLLIS (*Gmelin*)

A. O. U. Number 558

OTHER NAMES.—Peabody Bird; Cherrybird (in Adirondacks); Canada Bird; White-throated Crown Sparrow; White-throat; Nightingale (in Manitoba); Canada Sparrow; Peverly Bird.

GENERAL DESCRIPTION.—Length, 7¼ inches. Upper parts, rusty-brown, streaked with black; under parts, white and gray. Bill, small, compressed-conical; wings, long and pointed; tail, about length of wing, rounded or slightly double rounded.

NEST AND EGGS.—Nest: Typical site on ground, in burnt-over clearings or coniferous forests; sometimes in low bushes near streams or borders of fresh-water swamps, in the evergreen woods; a rather bulky structure, of coarse grasses, strips of bark, moss, lined with fine blades of grass. Eggs: 4 or 5, minutely and evenly sprinkled or heavily blotched with dark brown on a pale greenish or pale buffy ground.

DISTRIBUTION.—Eastern North America; breeding from Massachusetts, northern New York, Ontario, northern Michigan, northeastern Wyoming, eastern Montana, etc., northward to Great Bear Lake, west shores of Hudson Bay, Labrador, etc.; south in winter to Florida and southern Texas.

NEXT to the Song Sparrow no member of the family is so well known and well liked as the White-Throat. In Canada it is especially popular, and people there say that when it sings it says "Sweet Canada, Canada, Canada!" Others call it the "Peabody Bird," saying that it sings "Old man Peabody, Peabody, Peabody!"

This vigorous Sparrow is not very choice as to the location in which it lives. All it requires is the friendly shelter of a thicket, or some underbrush. It is equally at home in the garden, the hedgerow, the tangles along old fences, or the borders of heavy woodlands. During migration, and in its southern winter home, it is very sociable with other birds. Often two or three dozen White-throats will be found feeding together in the same tangle. Associated with them are usually members of other bush-loving species, such as Thrushes, Song Sparrows, and Slate-colored Juncos.

In summer the White-throat is found mated and caring for its young from northern New York and Massachusetts northward throughout a large part of Canada. Here on still mornings and quiet evenings the Peabody Bird's song floats to the ear with surpassing sweetness. It is protected by law wherever found north of the Rio Grande River. Its food consists of insects, seeds, and some wild berries.

CHIPPING SPARROW

SPIZELLA PASSERINA PASSERINA (*Bechstein*)

A. O. U. Number 560

OTHER NAMES.—Chip-bird; Chippey; Hair-bird; Social Sparrow; Hair Sparrow; Little House Sparrow.

GENERAL DESCRIPTION.—Length, 5½ inches. Upper parts, gray, rusty, and black, streaked; under parts, gray. Bill, small; wings, rather long and rather pointed; tail, shorter than wings, deeply forked, the feathers narrow and blunt.

NEST AND EGGS.—Nest: Built in bushes, hedges, or almost any kind of tree, especially cedars, usually close to houses, the orchard being a favorite locality; a delicate, open-work structure of fine, curly rootlets, cleverly interwoven and always thickly lined with horse-hair, sometimes constructed almost entirely of this material. Eggs: 3 or 4, rarely 5, bluish-green, thinly spotted with blackish-brown, often wreathed at large end.

DISTRIBUTION.—Eastern United States and British provinces, west to the Great Plains; breeding from near the Gulf coast northward of Nova Scotia, New Brunswick, Prince Edward Island, Province of Quebec, and wooded region in eastern side of the Saskatchewan plains; wintering chiefly in the more southern United States (Florida to Eastern Texas and northward); casual winter visitants to Cuba (and eastern Mexico?). Replaced in western North America by the Western Chipping Sparrow.

IN EARLY spring the Chipping Sparrow returns to its northern home. It is found not in the deep woods, nor very much in wide open fields. It likes old fields more or less grown up with bushes and briers, and dearly loves gardens, orchards, and shrubbery-covered lawns.

It is a most cheerful little bird, wearing a brown cap, and often repeating its rather uninteresting "chippy, chippy, ... chippy!" song, which sounds more like an insect than a bird. Its nest, in low trees or bushes, is always, so far as I have observed, lined with long hairs. For this reason the bird is often called the *Horse-hair Bird*.

In fall and winter the Chipping Sparrow eats a great many weed seeds, and thus is a very great friend of the farmer. During the warm part of the year it is equally valuable as a destroyer of insects.

As it is so fond of living about the house, its greatest enemy is naturally the domestic cat, and great numbers of both young and old are caught every year by these pets of the household.

Sparrows are all small birds, but the smallest of them all is the Chipping Sparrow. It weighs less than one ounce.

Junco

Junco hyemalis hyemalis (*Linnæus*)

A. O. U. Number 567

Other Names.—Slate-colored Junco; Snowbird; Black Snowbird; White Bill; Black Chipping Bird; Common Snowbird; Slate-colored Snowbird; Blue Snowbird; Eastern Junco.

General Description.—Length, 6 inches. Fore and upper parts, gray; under parts, white. Bill, small; wings, long and moderately rounded; tail, a little shorter than wing, double-rounded, the feathers narrow at the tips and blunt.

Nest and Eggs.—Nest: Usually placed on the ground, under a tuft of grass or weeds, sometimes in rock crevices, or upturned tree roots; constructed mostly of dried grasses, thickly lined with hair, fur, and feathers. Eggs: 4 or 5, white or greenish-white, spotted with rufous-brown.

Distribution.—Breeding from mountains of Pennsylvania, New York, and Massachusetts, Ontario, central Michigan, northern Minnesota, northward to Labrador, western shores of Hudson Bay, and through the interior to the Arctic coast and westward to valleys of the Yukon and Kowak rivers, Alaska; migrating southward in winter to Florida, Alabama, Mississippi, Texas, Arizona, and California, straggling (?) to Point Barrow and coast of Bering Sea (Kotzebue Sound, St. Michaels, etc.), and to eastern Siberia (Tschuctschi Peninsula).

The Junco is found all over North America from the tree-limit south to the Gulf coast and Mexico, ten varieties of this species being recognized, besides several other kinds.

High up on the mountains of western North Carolina, where few birds are to be seen, you will find the Junco. It may be beside the trail, or in a little opening in the heavy forest, or even in the high heather-covered slopes. But see it you surely will, for it is everywhere.

If the time be spring or early summer it is well to remain quiet and watch. By doing so you may be rewarded by hearing the little slate-colored male indulge in one of his songs. It is not a very long song, nor very loud, and perhaps these are the reasons why so many people have

never heard it. Look also for the nest hidden in a low bush or on the ground.

The more northern Junco very closely resembles the one found in the southern mountains. Most of us see it only in winter, when it comes with the snow. The little flocks will fly about the house if they are fed. Treat the Junco kindly, and it will soon become very tame, and feed without fear on the doorstep. As people generally think of this bird in connection with the snow of winter, it has acquired the name by which it is widely known—Snowbird.

Song Sparrow

Melospiza melodia (*Wilson*)

Other Names.—Silver Tongue; Everybody's Darling; Ground Sparrow; Hedge Sparrow; Bush Sparrow; Ground-bird; Marsh Sparrow; Red Grass-bird; Swamp Finch.

General Description.—Length, 6½ inches. Upper parts, brown and black in streaks; under parts, white, streaked with black. Wings, short and rounded; tail, about the length of wing, rounded, the feathers narrow and blunt.

Nest and Eggs.—Nest: Typical site on ground, in fields, adjoining woods, sheltered under a tussock of grass; sometimes in bushes, cedar or other small trees, or in hollows of apple or other trees; constructed of grass, weed stems, leaves, lined with fine grass and hair. Eggs: 4 or 5, dull pale greenish, spotted thickly or sparsely spotted or blotched with shades of reddish or dark brown and lavender.

Distribution.—Breeds in the United States (except the South Atlantic and Gulf States), southern Canada, southern Alaska, and Mexico; winters in Alaska and most of the United States southward. About twenty varieties of Song Sparrow are recognized in North America.

SONG SPARROW

From a drawing by R. I. Brasher

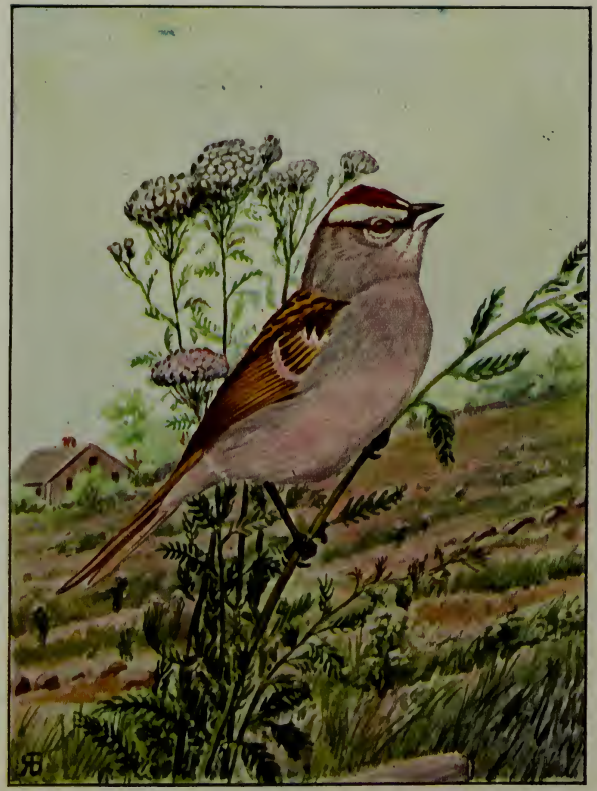
Everyone who knows the Song Sparrow likes it, for this trim little bird has no annoying habits, and thousands of people listen to its singing with the greatest pleasure. Its song from the top of a small roadside tree is the first bird music I hear in early spring. It haunts the margins of thickets and shrubbery, and is seldom seen among groves of high trees. Few other Sparrows have so wide a range, for in summer it is found from the Gulf States to northern Canada and Alaska.

GOLDFINCH (1/2 nat. size)

JUNCO (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

ENGLISH SPARROW (1/2 nat. size)



CHIPPING SPARROW (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

SONG SPARROW (1/2 nat. size)

CARDINAL (3/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

ROSE-BREASTED GROSBEAK (1/2 nat. size)

SCARLET TANAGER (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

Its nest is hidden with the greatest skill, and even where the birds are common it is not always easy to find. If you start out to search for one, the best way is to watch the birds carefully until one betrays the location of its nest by carrying food to its young. The nest you will find is made of grass, rootlets, dried leaves, and sometimes hair. It may be in a low bush, but more probably it will be on the ground hidden among the long grasses. Song Sparrows seek a great variety of food, but are especially fond of insects, of which they destroy immense numbers. They are therefore of great value to farmers.

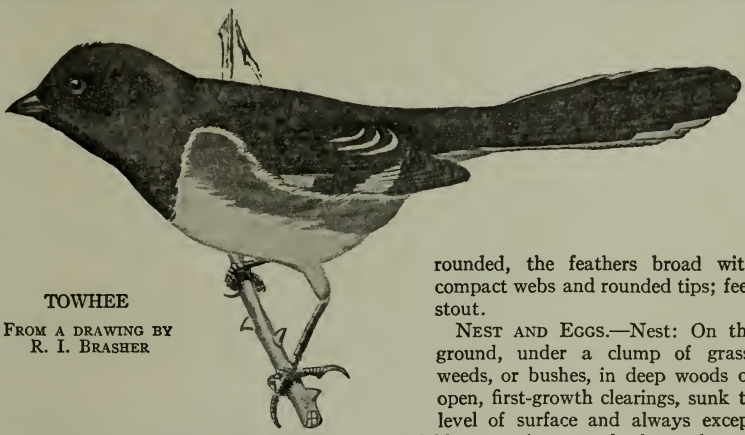
Towhee

Pipilo erythrophthalmus erythrophthalmus (*Linnæus*)

A. O. U. Number 587

Other Names.—Chewink; Towhee-bird; Swamp Robin; Bullfinch (in Virginia); Red-eyed Towhee; Ground Robin; Towhee Buntin; Jo-ree; Marsh Robin; Swamp Robin; Cherokee Robin; Bush-bird; Turkey Sparrow.

General Description.—Length, 8 inches. Fore and upper parts, black; under parts, white and brownish. Wings, rather short and much rounded; tail, longer than wing, rounded, the feathers broad with compact webs and rounded tips; feet stout.



TOWHEE

From a drawing by R. I. Brasher

Nest and Eggs.—Nest: On the ground, under a clump of grass, weeds, or bushes, in deep woods or open, first-growth clearings, sunk to level of surface and always exceptionally well concealed; construction rather variable, sometimes carelessly made and others quite firm and compact; made of leaves, twigs, grass, and vegetable fibers, well lined with grass and rootlets. Eggs: 4, white or pale pinkish white, thickly sprinkled with light chestnut.

Distribution.—Eastern United States and more southern British provinces west to edge of the Great Plains, in Manitoba, North Dakota, Kansas, Oklahoma, etc.; breeding from near the Gulf coast, north to Maine, Ontario, Manitoba, etc.; south in winter to southern Florida, Gulf coast in general, and eastern and central Texas; casual in New Brunswick.

The White-eyed Towhee is found in the coast region from Charleston, S. C., southward, including Florida. In western North America other Towhees are found.

This handsomely colored bird dwells in thickets. Here he jumps about in a most lively manner. Often one hears him scratching on the ground among the dead leaves, and making as much noise as a bird ten times his size. "Ground Robin," he is sometimes called. "Jo-ree" is also a common name. Others know him as the "Chewink," which is a very good imitation of one of his notes.

In spring the Towhee has a song, which is clear and very pleasing in tone. Mounting to the top of some bush or low tree he sends forth his melody over and over again for long periods. Mr. Ernest Thompson Seton interprets the song of the Towhee in the following combination of words. To him the bird sings: "Chuck-burr, pill-a-will-a-will-a!" The nest is placed on the ground at the foot of small bushes or shoots. Now and then it is even built in a bush a few inches above the ground.

In the Southern States, where the Towhee retires in winter, it is usually found in company with other bush-loving species, such as White-throated Sparrows, Song Sparrows, and Juncos. Living on the ground as these birds do, they naturally have many enemies, and yet so well do they take care of themselves they have managed to live and thrive, and are to-day a very abundant species in eastern United States.

Cardinal

Cardinalis cardinalis cardinalis (*Linnæus*)

A. O. U. Number 593

Other Names.—Cardinal Grosbeak; Redbird; Crested Redbird; Virginia Redbird; Virginia Nightingale; Virginia Cardinal; Kentucky Cardinal; Cardinal Bird.

General Description.—Length, 8¾ inches. Male, red; female, partly red, giving an appearance of being faded. Bill, stout; wings, short and rounded; tail longer than wing, slightly rounded; head with conspicuous crest.

Nest and Eggs.—Nest: Located in thickets of brambles or grapevines or low saplings; a carelessly constructed, loosely put together affair of small twigs, strips of bark, weed stems, grass, lined with fine rootlets, and horse-hair. Eggs: 2 to 4, white, bluish, or greenish white marked with shades of chestnut, purple, and brown, usually scattered over entire surface.

Distribution.—Eastern United States; north, regularly and breeding to southeastern New York, lower districts of eastern Pennsylvania, western Pennsylvania, northeastern Ohio, northern Indiana, southern Iowa, etc., casually or irregularly to Connecticut, Massachusetts, Maine, Nova Scotia, southern Ontario, southern Michigan, southern Wisconsin, and Minnesota; west to edge of Great Plains, casually to eastern Colorado; south to Georgia, Alabama, and upland region of Gulf States; Bermudas (introduced and naturalized). Replaced in southern Arizona by the Arizona Cardinal, in central and southwestern Texas by the Gray-tailed Cardinal, and in Florida by the Florida Cardinal.

The male Cardinal is a brilliant red bird; in fact, he is spoken of as "Redbird" quite as frequently as he is called Cardinal. He is red almost all over, the most notable exception being a ring of black feathers around

his heavy red bill. This is a popular songster, his loud, clear whistling notes adding greatly to the bird chorus of the thickets where he loves to dwell. The more plainly colored female is an accomplished singer also, which is not a usual custom among the mothers of the bird-world.

As Cardinals are birds of such showy plumage they are widely known among people of the regions they inhabit. Often they will come in the yard and flit from one bush or tree to another. Or you may catch sight of one darting across the garden like a streak of flame. In the country they may perch on the fence beside you, or fly up from the road before your horse. The nest with its three or four spotted eggs is hidden among the briers or low bushes. When the young have hatched, the male leads the young and cares for them while his mate is brooding a second setting of eggs. Until the Audubon Society laws were passed, thousands of Cardinals annually were captured and confined in cages.

Rose-Breasted Grosbeak

Zamelodia ludoviciana (*Linnæus*)

A. O. U. Number 595

Other Names.—Potato-bug Bird; Common Grosbeak; Summer Grosbeak; Rose-breast; Robin-redbreast.

General Description.—Length, 8¼ inches. Fore and upper parts, black or blackish-brown; under parts, red and white. Bill, heavy and short; wings, long and pointed; tail, more than ¾ length of wing, even or slightly rounded, the feathers broad and rounded at the ends.

Nest and Eggs.—Nest: In low trees and bushes, sometimes on such slender branches that the eggs roll out when the support is bent by a strong breeze; a flat, rather carelessly made saucer-shaped structure of small twigs, wiry rootlets, and grass. Eggs: 3 to 5, greenish blue, spotted and blotched over entire surface with chestnut and shades of brown.

Distribution.—Eastern United States and more southern British provinces, from Atlantic coast to edge of the Great Plains (eastern Kansas to Manitoba); breeding from New Jersey, Pennsylvania, northern Ohio, northern Indiana, northern Illinois, Iowa, and eastern Kansas, north to Manitoba, Ontario, Nova Scotia, etc., and south along the Allegheny Mountains to western North Carolina (3,500 to 5,000 feet); in winter south to Bahamas, Cuba, Jamaica and through Mexico and Central America to western Ecuador; casual in Bermudas.

The male Rose-breasted Grosbeak, in his red, black, and white plumage, is among the most handsome of our wild forest birds. On the other hand, the female is so modestly attired that one might even suspect it of being a representative of some large species of Sparrow. Leaving their winter home in the tropics, these Grosbeaks journey northward and reach their breeding grounds in late April or early May. In migration it appears they rarely travel in flocks. Single birds are often seen winging along overhead, only now and then pausing to rest on the top of some tall

tree. When night approaches they descend to the secure shelter of some thicket to sleep.

During the song period the Rose-breasted Grosbeak sometimes sings on moonlight nights after the custom of the Mockingbird. Its song to some ears strongly resembles the music of the Robin. The nest is built generally in saplings or small trees, often near a stream, or on the borders of woodlands. For food the Grosbeak eats insects and some berries. Also it consumes many varieties of seeds. When wheat is ripening in the fields it has been known now and then to take a few grains of this popular cereal.

Blue Grosbeak

Guiraca cærulea cærulea (*Linnæus*)

A. O. U. Number 597

Other Names.—Blue Pot; Blue Ricebird.

General Description.—Length, 7¾ inches. Male, blue; female, olive-brownish above and brownish-buffy below. Bill, large, conical, compressed, with nearly straight outlines; wings, long and pointed; tail, about ¾ length of wings, nearly even or very slightly rounded.

BLUE GROSBEAK

From a drawing by R. I. Brasher

Nest and Eggs.—Nest. Placed in low brambles, or in deciduous trees as far as thirty feet from the ground; a compact, well-built structure of dried grass, plant fibers, leaves, with an intertwined cast-off snake skin; lined with fine brown rootlets and horse-hair. Eggs: 3 or 4, plain light bluish white.

Distribution.—More southern portions of eastern United States, chiefly near Atlantic and Gulf coasts; north regularly, but very locally, to Pennsylvania, New Jersey, Kentucky, and southern Illinois; accidentally to Maine, eastern Massachusetts, Province of Quebec; in winter south to Cuba and Yucatan.

About the margins of quiet reed-grown ponds and rice-field reservoirs of the Southern States the Blue Grosbeak may be looked for any summer day. Old fields grown up in bushes or sprouts are other favorite haunts for this thick-billed, deep-blue bird. In a low bush or cluster of rank grass the nest is built only a little distance from the ground. Here while the female broods her eggs the male sings from the top of the tallest

nearby tree. At times he descends and feeds her, or even sits in the nest while she goes in quest of food and exercise.

To some extent the Blue Grosbeak resembles the Indigo Bunting, but it is larger. Both birds frequent the same general localities, and in habits of feeding and nesting there are many points of similarity. The food of the Grosbeak consists in part of insects and a few berries. Mainly, however, it eats seeds. For example, it likes the grains of rice as it is ripening. Rarely more than one pair of birds will be found in any one field, unless it be one of large area. As the birds are so thinly distributed about the country, and are never found in large flocks, their damage to the rice-crops is so small as not to be noticed or begrudged by the Southern planters.

Indigo Bunting

Passerina cyanea (*Linnæus*)

A. O. U. Number 598

Other Names.—Indigo Bluebird; Indigo Painted Bunting; Indigo Bird; Indigo Finch; Blue Finch; Blue Canary; Blue Pop.

General Description.—Length, 5¾ inches. Male, blue; female, olive-brownish above and dull white below. Bill, small; wings, long and pointed; tail, about ¾ length of wing, slightly double rounded.

Nest and Eggs.—Nest: Generally in a low viburnum, witch-hazel, or maple saplings or other small bushes, or in brambles on brushy hillsides or open clearings near woods; usually in a fork, within five feet of ground; constructed of grasses, leaves, weed stalks, strips of bark, plant fibers, lined with finer grasses and hair. Eggs: 4, plain pale bluish white.

Distribution.—Eastern United States and British provinces; north to Maine, Ontario, Minnesota, etc. (casually to New Brunswick); south in winter to Bahamas, Cuba, and through eastern Mexico and Central America to Panama; west to eastern border of Great Plains, casually to eastern Colorado.

INDIGO BUNTING

From a drawing by R. I. Brasher

Buntings are closely related to Sparrows, and even more nearly resemble Grosbeaks. Their beaks are thick and stout, which must help them in the task of crushing seeds. The Indigo Bunting, or

Indigo Bird, lives in the United States only during the warm months, the remainder of the year being passed in Central America.

This is one of the birds that shun the thick forests. It is distinctly a dweller of open places. Pastures with clusters of bushes here and there seem to be their favorite abiding place.

The two birds are very dissimilar in appearance, the male possessing a coat of deep blue and the female at a little distance resembling a Sparrow. The quiet coloring of the mother-bird surely serves as a great protection when late in spring she takes up the duty of incubating the eggs. Were she garbed in the bright colors of her mate, many an Indigo Bunting's nest would come to grief from the attack of some Hawk, Crow, or other winged enemy. The nest, placed usually in a low bush, is made largely of fragments of leaves, strips of bark, and grasses.

The male is a gifted songster, and adds his melody to the springtime chorus from some elevated perch on bush or tree.

Scarlet Tanager

Piranga erythromelas *Vieillot*

A. O. U. Number 608

Other Names.—Black-winged Redbird; Fire-bird; Canada Tanager; Pocket-bird; Scarlet Sparrow.

General Description.—Length, 7 inches. Male: in summer, red with black wings and tail; in winter, red replaced with yellowish-green and yellow. Female: body, yellowish-green above and yellow below; wings and tail, brownish-gray. Bill, stout; wings, moderately long and pointed; tail, shorter than wing, notched.

Nest and Eggs.—Nest: On horizontal limb of low saplings, generally low, but sometimes 40 feet up, in retired woodlands; a flat, loosely-put-together structure of stems, roots, and bark strips, lined with rootlets and fine inner bark; some composed almost entirely of brownish rootlets. Eggs: 3 to 5, generally 4, greenish-blue, speckled and blotched with chestnut; occasionally the eggs are very faintly and finely spotted, altogether lacking the usual bold markings.

Distribution.—Eastern United States and more southern British provinces, north to New Brunswick, Nova Scotia, northern Ontario, Manitoba; breeding southward at least to Virginia, Kentucky, Missouri, etc. (in Allegheny Mountains to South Carolina); in winter migrating southward to West Indies and through Mexico, Central America, and northern South America to Bolivia and central Peru; west, casually to eastern Colorado and Wyoming.

No bird of the northland is more brightly colored than the Scarlet Tanager. The plumage of the male is bright scarlet, except the wings and tail, which are black. The female, however, is very quietly dressed, being olive-green and brown. In the spring and summer, which are the only times of year when they are with us, they occupy a most conspicuous place in the bird-world. The loud, clear "chip-chirr" call-notes reach the ear as one passes through the woods or park. They also possess a

song that somewhat resembles that of the Robin. They are distinctly birds of forest regions, and rarely come into the open fields or pastures. Their diet of insects is secured among the foliage of trees. Their nests, too, are built in trees, frequently on a horizontal limb.

The winter home of this Tanager is in South America, which means that a flight of thousands of miles is necessary each year for the birds to carry through the program laid out for them by Mother Nature.

Wherever seen the Scarlet Tanager attracts attention. One spring recently many stopped in the few trees now standing in City Hall Park, New York City. Thousands of people hurrying by paused to watch and marvel at their rare beauty.

Purple Martin

Progne subis subis (*Linnæus*)

A. O. U. Number 611

Other Names.—Martin; Black Martin; House Martin; Rainbird.

General Description.—Length, 8 inches. Plumage, steel-blue. Bill, stout; tail, about ½ length of wing, forked for about $^1/_3$ of its length.

Nest and Eggs.—Nest: In boxes erected for their use, a few pairs occasionally returning to primitive conditions and nesting in hollow trees; nesting material consisting of nearly anything handy—leaves, rags, paper, string, straw, or grass. Eggs: 4 to 6, pure glossy-white, unmarked.

Distribution.—Temperate North America, except Pacific coast district; breeding north to Maine, New Brunswick, Nova Scotia, northwestern Ontario, Manitoba, Montana, and Idaho; breeding southward to southern Florida, southern Texas, and plateau of Mexico; in winter, from southern Florida and Mexico to Venezuela and Brazil; accidental in Bermudas and British Isles. Replaced in the Pacific coast region by the Western Martin.

The Purple Martin is another of the Swallow family that has very largely changed its habits of nesting since people from Europe settled in America. In the days when this country was a wilderness the Martins built their nests in holes of forest trees and in gourds that were sometimes hung up for them about Indian encampments. To-day they use for their nests the bird-boxes people make and erect on poles, and only in the wildest sections will one still find them inhabiting hollow trees.

These birds feed entirely on flying insects that they capture as they circle about through the air. They are very brave little birds, and will attack any Crow or Hawk that comes near their nesting places. For this reason Martins are much liked by the people in the country who raise chickens, and thousands of Martin houses are put up every year by those who hope to induce these birds to come and spend the summer with them.

Martins cannot be called songbirds, although they engage in much cheerful twittering among themselves. Late in June, when the young are able to fly, they gather in large flocks, and often roost for weeks in a grove. Sometimes these flocks become very large, and as many as two hundred thousand may come together in one place for the night.

Cliff Swallow

Petrochelidon lunifrons lunifrons (*Say*)

A. O. U. Number 612

Other Names.—Eave Swallow; Jug Swallow; Barn Swallow; Mud Swallow; Republican Swallow; Crescent Swallow; Rocky Mountain Swallow; Moon-fronted Swallow; Rainbird.

General Description.—Length, 6 inches. Upper parts, steel-blue; under parts, chestnut and whitish. Bill, very short; tail, less than ½ length of wing, slightly notched.

Nest and Eggs.—Nest: A cleverly constructed retort-shaped structure, fastened to cliffs or under eaves of outbuildings at its large end and extending horizontally; made of mud pellets mixed with straw and lined with feathers. Eggs: 3 to 5, speckled and spotted with reddish-brown and lilac.

Distribution.—Nearly the whole of North America; breeding north to Nova Scotia, New Brunswick, Anticosti Island, Province of Quebec, in the interior to Territory of Mackenzie and the Yukon Valley of Alaska, and on the Pacific coast to British Columbia; breeding southward over nearly the whole of the United States (except Rio Grande valley, at least above mouth of the Pecos River) and coast district of northwestern Mexico, as far as Mazatlan and Tepic. In winter, southward through Mexico and Central America, at least to Honduras. Said to occur in winter in Brazil, Paraguay, Argentina, and other parts of South America. Two other varieties of Cliff Swallow are found in North America.

It is probably true that Cliff Swallows have increased in numbers since white men settled in this country. The reason for this will be explained. The birds build gourd-shaped nests of mud. In days gone by the only situations in which they could place them were the sides of cliffs. When heavy rains fell many of the nests must have been melted and washed away. When white men came and began to build barns, the Cliff Swallows found better places for their nests. Now, all over the country in spring their mud cradles are found stuck to the sides of barns well up under the eaves where the rain cannot reach them.

Cliff Swallows nest in colonies, sometimes a hundred pairs rearing their young under the shelter of the eaves of one barn. The mud is gathered from puddles or along the shores of streams and ponds. In little pellets it is carried away and the nest gradually built up. It is about five inches through, and has a short neck at one side, in the end of which is the small entrance hole. It is lined with fine grasses and other soft materials.

When the young can fly the families unite with others and the flocks move away to the tropics to pass the winter.

PURPLE MARTIN (1/2 nat. size)

CLIFF SWALLOW (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

BARN SWALLOW (1/2 nat. size)

CEDAR WAXWING (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

OVEN BIRD (1/2 nat. size)

MARYLAND YELLOWTHROAT (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

MOCKINGBIRD (1/3 nat. size)

THRASHER (3/8 nat. size)

FROM DRAWINGS BY R. I. BRASHER

Barn Swallow

Hirundo erythrogastra *Boddaert*

A. O. U. Number 613

Other Names.—American Barn Swallow; Barn-loft Swallow; Fork-tailed Swallow; Rain-bird.

General Description.—Length, 7 inches. Upper parts, steel-blue; under parts, chestnut and red. Bill, small and depressed; tail, $^2/_3$ length of wing, or longer, and forked for more than $^1/_3$ of its length, the side feathers becoming gradually narrower and more drawn out to the outermost, which are sometimes almost thread-like for the end portion, but always with blunt tips.

Nest and Eggs.—Nest: A bowl-shaped hemisphere, attached to barn or other buildings, timbers, or on sides of cave; constructed of mud pellets mixed with straw and grass, thickly lined with feathers. Eggs: 3 to 6, white marked with spots of bright Indian red, brown, and lavender.

Distribution.—North America in general, north to Alaska, northern Mackenzie, southern Manitoba, and southern Ungava; breeding southward over whole of United States (except Florida); in winter from southern Florida and southern Mexico, through Central America and South America as far as southern Brazil, Paraguay, Argentina, Bolivia, and Peru, and throughout West Indies; occasional in Bermudas.

The Barn Swallow is so graceful, friendly, and altogether attractive that it has long been one of our most beloved birds. It likes to live around the farm house. Into the doorway of the barn or through a broken window we see it fly over and over on a summer's day. Sometimes many birds are about, and a dozen or more pairs may have their nests on the rafters up above the hay loft. They may even come to the house and make their nests of mud, grass, and feathers under the shelter of the veranda roof. As they flutter near their nests or circle low about the barn-yard or fields, they give vent to many twitters that seem filled with cheer and good will.

In appearance the Barn Swallow resembles the Cliff Swallow, with which it is often associated. On the wing, however, it may be distinguished by its deeply forked tail. Swallows feed on insects. These they capture in the air. In winter, of course, there are no flying insects to be found, so the Barn Swallows leave us for far-off southern countries, and do not return until the next spring, when new broods of insects again fill the air.

Cedar Waxwing

Bombycilla cedrorum *Vieillot*

A. O. U. Number 619

Other Names.—Cherry Bird; Cedar Bird; Southern Waxwing; Carolina Waxwing; Canada Robin; Recollet.

General Description.—Length, 7¼ inches. Plumage of perfectly blended colors, the effect being a pinkish grayish-brown with yellow on abdomen and tip of tail.

Nest and Eggs.—Nest: Generally in an orchard, within 20 feet of the ground; rather

bulky, constructed of twigs, leaves, grasses, strips of bark, twine, paper, and rags; lined with fine grass, horse-hair, or wool. Eggs: 3 to 5, bluish-gray to dull olive, marked with spots and blotches of sepia and dark purple.

DISTRIBUTION.—Temperate North America in general; breeding from Virginia, western North Carolina, Kentucky, Kansas, New Mexico and Arizona (in mountains), and Oregon, northward to Prince Edward Island, southern shores of Hudson Bay, Manitoba, Saskatchewan, and British Columbia; wintering in whole of United States (in wooded districts), and migrating southward to Bahamas, Cuba, Little Cayman, and Jamaica, in West Indies, and through Mexico and Central America to highlands of Costa Rica; accidental in Bermudas and British Isles.

THE Cedar Waxwing is covered with a coat of silky, brownish feathers that makes it a most elegant appearing bird. Its quiet, refined manner adds to the general effect of gentility that it always produces. They have many dainty ways when feeding that greatly endear them to bird-students. Apparently they never fight over their food; and two or more may be seen feeding on a single persimmon, or even passing berries or worms to one another. In the southern States flocks of one hundred or more individuals may be found during the winter months. They fly in compact companies, and when lighting on a tree usually perch very close together.

Cedar Waxwings breed late in the season. Most birds in the central and northern States build their nests in the months of May or June, but the Waxwings generally wait until July. At this season they are found in orchards, cedar thickets, or along the borders of woods or by lake-sides.

The nest is bulky, and made of a wide variety of materials, including twigs, moss, rootlets, strings, strips of bark, etc. The male has no song, but the birds produce a series of pleasing little whistles that Thoreau once called their "beady notes."

MIGRANT SHRIKE

LANIUS LUDOVICIANUS MIGRANS *W. Palmer*

A. O. U. Number 622*e*

OTHER NAME.—Butcher Bird.

GENERAL DESCRIPTION.—Length, 8½ inches. Upper parts, light grayish-blue; under parts, white; wings and tail, black.

NEST AND EGGS.—Nest: In bushes or thorny trees, principally north of the United States; a large, rude structure of twigs, grasses, leaf, and weed stems, lined thickly with moss and feathers. Eggs: 4 to 6, pale bluish green, spotted with brown and dull purple.

DISTRIBUTION.—Eastern North America; breeds from northern Minnesota, Wisconsin, Michigan, southern Ontario, south Quebec, Maine, and New Brunswick south to eastern Kansas, southern Illinois, Kentucky, western North Carolina, and interior o[illegible]

Virginia (locally in the east); winters from the Middle States and southern New England to Texas, Louisiana, and Mississippi. Replaced in the southeastern United States by the Loggerhead Shrike, in western North America by the White-rumped Shrike, and in the Pacific coast region by the California Shrike and the Island Shrike. In northern North America is found the larger Northern Shrike.

When a Shrike is first seen it is perhaps perched on some roadside stake or telephone pole. From such an outlook this fierce, little gray bird keeps a sharp watch on the ground below for any lizard, small snake, or insect that may come within the range of its view. It is very fond of grasshoppers, and now and then it pounces upon some small Sparrow or Warbler.

In addition to the Migrant Shrike there are two other birds in eastern United States that bear the same name, viz., the Loggerhead Shrike of the South, and the Northern Shrike. All are very similar in appearance and habits of life. All of them, for example, have a way of sticking their extra food upon thorns and leaving it there, much as a butcher hangs up his meat. It is very natural, therefore, that one name by which all the Shrikes are known is the "Butcher Bird."

MIGRANT SHRIKE
From a drawing by R. Bruce Horsfall

When flying to its perch the Shrike moves forward with rapidly beating wings, often low to the ground, until very near the tree or stake on which it intends to alight; then with a sudden upward swing it rises almost straight to its landing place. In spring the Shrike has a weak, squeaky little song that does not rate the bird very high among the myriad songsters of the great forests.

Red-Eyed Vireo

Vireosylva olivacea (*Linnæus*)

A. O. U. Number 624

Other Names.—The Preacher; Red-eyed Greenlet; Red-eye; Little Hang-nest; Preacher Bird.

General Description.—Length, 6½ inches. Upper parts, grayish-green; under parts, white.

Nest and Eggs.—Nest: In forks of smaller or large trees, usually within 10 feet of ground but often much higher; a beautiful, pensile structure of finely woven vegetable fiber, strips of bark, grasses, and cobwebs and lined with fine grasses, ornamented exteriorly with cocoons, bits of wasps' and spiders' nests. Eggs: 3 to 5, white, sparingly speckled with reddish-brown and umber.

Distribution.—Temperate North America in general, except arid districts; north to Nova Scotia, Prince Edward Island, Keewatin, Saskatchewan, and southern Mackenzie· west to British Columbia (both sides of Cascade range), Washington, Colorado, Utah, etc.; breeding south over whole of wooded region east of Rocky Mountains as far south as Caloosahatchee River, southern Florida, and as far west as Tom Green county, western Texas; wintering from southern Florida to Bahamas, and through Mexico, Central America, and South America as far as Brazil.

One of the best known birds in eastern United States is the Red-eyed Vireo. It is abundant over much of the territory where it is found, and is not as timid as many other birds. So tame is it at times that the writer has on various occasions touched a brooding bird before it would leave its nest. Another reason why so many people have learned to know this Vireo lies in the fact that it is not only a forest species, but also is abundant in villages, parks, and in fact almost anywhere that trees are found. I have seen a nest on a limb within fifteen feet of a kitchen door. The nest is a cradle swing in a fork of twigs well out toward the end of a leafy branch.

Most wild birds sing but little after the brooding season, but the Red-eyed Vireo is a pronounced exception to this rule. In spring it announces its arrival with a shouting song, so loud, so clear, and so far-carrying that the volume of sound for so small a singer is one of the wonders of the bird world. It seems to enjoy greatly its power of song, for the notes are repeated over and over again almost the livelong day. When the young have been reared it does not quit singing, but continues on during the hot days of summer after the music of most birds has ceased to be heard.

Yellow Warbler

Dendroica æstiva æstiva (*Gmelin*)

A. O. U. Number 652

Other Names.—Summer Warbler; Yellow Titmouse; Summer Yellowbird; Yellowbird; Yellow Poll; Blue-eyed Yellow Warbler; Golden Warbler; Wild Canary (incorrect).

General Description.—Length, 4¾ inches. Fore and under parts, yellow; upper

parts, yellowish olive-green; under parts, streaked with chestnut. Bill, shorter than head, slender, tapering gradually to the tip; wings, moderately long and pointed; tail, slightly rounded.

NEST AND EGGS.—Nest: Generally located in hedges and small saplings, within 10 feet of the ground, and strongly fastened in forks; constructed very neatly of grayish colored plant fibers and slender pliable strips of bark and lined with down and feathers; in some cases built entirely of cat-tail down, forming an exquisitely soft receptacle for eggs and young. Eggs: 2 to 6, usually 4, with a greenish-white ground spotted and splashed around large end with shades of brown, lilac-gray, and some black.

DISTRIBUTION.—North and South America; breeds in North America east of Alaska and Pacific slope from tree limit south to Nevada, northern New Mexico, southern Missouri, and northern South Carolina; winters from Yucatan to Guiana, Brazil, and Peru. Other varieties of the Yellow Warbler are found in other parts of North America.

THIS is the bird that thousands of people every spring and summer call the "Wild Canary." But although it is a wild bird it is not a Canary of any kind. Canaries have short, heavy bills for crushing seed, while Warblers have sharp, slender bills for catching insects. There are also many other differences. All over the country where Yellow Warblers are found they live in open places like orchards, shade trees along quiet streets, in untilled fields, and on the lawns. The male has a very pleasing little song, and may be heard singing at almost any time of day, but especially in the forenoon.

The nest is of very fine grasses, plant-down, and sometimes horsehair. It is compact, and makes a snug cradle for the four or five little babies that are soon to be rocked by every passing breeze. Look for the nest in trees and bushes from two to twenty feet from the ground. At Lake Champlain many nests are built in low bushes along the shore. They are favorite nests for the lazy Cowbird to deposit her eggs in, and thousands of these parasites are every year hatched and reared by the hard-working Warbler parents.

Yellow Warblers leave the United States when winter comes and go South where insects may be found.

MYRTLE WARBLER

DENDROICA CORONATA (*Linnæus*)

A. O. U. Number 655

OTHER NAMES.—Myrtle Bird; Yellow-rump; Yellow-rumped Warbler; Golden-crowned Fly-catcher; Golden-crowned Warbler; Yellow-crowned Warbler.

GENERAL DESCRIPTION.—Length, 5½ inches. Summer plumage: Upper parts, bluish-gray, streaked with black; under parts, white, black, and yellow. Winter plumage: Upper parts, grayish-brown; under parts, brownish-white with black streaks. Bill, shorter than head, slender, tapering gradually to the tip; wings, long and pointed; tail, nearly even.

NEST AND EGGS.—Nest: Placed usually in a coniferous tree but a few feet up; bulky and carelessly built of small spruce and hemlock twigs, vegetable fibers, old leaves, and

lined with hair, small roots, and some feathers. Eggs: 3 to 5, dull white or creamy, speckled and blotched with shades of chestnut, brown, and lilac-gray, often in wreath around larger end.

DISTRIBUTION.—North America in general, chiefly east and north of Rocky Mountains; breeding from mountains of western Massachusetts, northeastern New York, northern Michigan, Manitoba, etc., to limit of tree growth, wintering from the United States (except extreme northern portions) southward to West Indies, through Mexico and Central America to Panama; on Pacific coast from central Oregon to southern California; accidental in Greenland and eastern Siberia.

THIS is one of the best-known members of the Warbler Family. It can easily be told from any of the other fifty species of the family found in eastern United States if one will remember this fact: it has yellow patches of feathers on the crown, lower back and sides of the breast.

In summer it is found in the northern tier of States and throughout the most of Canada. From New Hampshire southward, therefore, we cannot expect to see it until autumn draws near. It is one of the birds which while feeding largely on insects in warm weather does not hesitate to change its diet when insects become scarce.

In autumn we find it eating the fruit of the bayberry and myrtle. This Warbler does not always think it necessary to fly away to the tropics in winter, as most warblers have the habit of doing. True, some of them do go south to Panama, but many others pass the winter as far north as New Jersey. They are especially abundant among the sand dunes along the coast of our southern States, where the berries of the yaupon furnish them with an abundant food supply. When hunting insects this bird often catches them in the air, making short flights for the purpose much as do the Flycatchers.

BLACKBURNIAN WARBLER

DENDROICA FUSCA (*Müller*)

A. O. U. Number 662

OTHER NAMES.—Hemlock Warbler; Torch-bird; Fire-brand; Orange-throated Warbler.

GENERAL DESCRIPTION.—Length, 5 1/4 inches. Upper parts, black or blackish with spots of yellow and white; under parts, orange and yellow. Bill, shorter than head, slender, tapering gradually to the tip; wings, long and pointed; tail, notched.

NEST AND EGGS.—Nest: An elegant, compact structure of cat-tail down, hemlock twigs, fine grasses, rootlets, and strips of bark and lined with horse-hair and fine lichens; placed almost always in a conifer, spruce or hemlock preferred, usually at great height, in one instance 84 feet. Eggs: Usually 4, grayish or bluish-white, blotched and speckled with cinnamon and olive-brown.

DISTRIBUTION.—Eastern North America and northern South America; breeds from Manitoba, southern Keewatin, central Ontario, Quebec, and Cape Breton Island to central Minnesota, Wisconsin, northern Michigan, Massachusetts, and Connecticut, and in the Alleghenies from Pennsylvania to Georgia and South Carolina; winters from

Colombia to central Peru and less commonly north to Yucatan; in migration to Nebraska, Texas, and Kansas, straggling to Utah, New Mexico, and the Bahamas.

In May, when the fresh, new leaves have as yet barely reached their growth, we may look for the Blackburnian Warbler. It may be in the shade trees beside the street, in the shrubbery on the lawn, or among the apple-trees of the orchard. It is any place and every place where there are plants and trees that insects infest. It is not alone, for many other Warblers also are about, and fresh troops of them are arriving nightly from the South.

Look for a small, active bird with a rich orange throat and breast. The rest of its plumage is black, with here and there a patch of white. A male Blackburnian Warbler is a thing of beauty, and the boys or girls who do not know it by sight have something of great interest yet ahead of them.

These birds are only five and one-quarter inches long, but despite their small size they are wonderful flyers. Their winter home is in South America. This means that twice a year they must journey over thousands of miles of sea and land. In summer they are to be looked for in the forests of cone-bearing trees mainly of the Northern States and Canada. Their little nests of sticks and grasses are hidden far up among the limbs of the evergreens.

Oven-Bird

Seiurus aurocapillus (*Linnæus*)

A. O. U. Number 674

Other Names.—Golden-crowned Thrush; Teacher; Nightingale; Wood Wagtail; Golden-crowned Wagtail; Golden-crowned Accentor.

General Description.—Length, 6¼ inches. Upper parts, olive; under parts, white, with black spots. Bill, shorter than head, slender, tapering gradually to the tip; wings, long and pointed; tail; even or slightly notched.

Nest and Eggs.—Nest: Imbedded in ground in dry woods; of dried grass, artfully arched over with dead leaves and so perfectly blending with its surroundings as to be rarely discovered unless the bird is scared from the nest. Eggs: 3 to 6, glossy white, marked by specks and spots scattered over entire surface, usually more thickly around larger end.

Distribution.—North America; north to Nova Scotia, Anticosti Island, Labrador (?), southern and western shores of Hudson Bay, and the Yukon Valley in Alaska; west to eastern base of Rocky Mountains in Colorado and Montana, accidentally to British Columbia; breeding southward at least to Virginia, the Ohio Valley, and Kansas, probably much farther, and in the Bahamas; in winter, Gulf coast of United States, Bahamas, Greater Antilles, Swan Island and Old Providence Island, Caribbean Sea, and through Mexico into Central America, and northern South America (Colombia).

We may speak of the Oven-bird as a Warbler that lives on the ground. A wood with thick underbrush is its favorite haunt. Here among the

leaves it moves about seeking its food. This is one of the few small birds that do not progress by hops—it walks. During the spring months it sings all day. "Teacher! teacher! teacher!" it continually calls. Each note is louder than the one before. Because of its song it is often called the "Teacher Bird." Sometimes it sings from the ground, but more often, perhaps, from a log or the limb of some low bush.

Courtesy of Outing Publishing Co.

OVEN-BIRD ON NEST

From a photograph by H. K. Jor

You may pass through a woodland where the Oven-birds are singing on every side, and yet not find one. Few birds are so much in evidence by their songs, and so much out of sight when you try to see them.

Its nest is also very hard to find. Among the leaves in the cover of the underbrush it is hidden. Leaves and grass arch over the top, and the bird enters through a hole in the side. Thus the nest is shaped much like an old-fashioned oven, hence the name "Oven-bird." In winter these little ground-walking birds all retire to the far South, where insect food can more readily be found, and where snow does not cover the earth.

Maryland Yellow-Throat

Geothlypis trichas trichas (*Linnæus*)

A. O. U. Number 681

Other Names.—Olive-colored Yellow-throated Wren; Yellow-throat; Western Yellow-throat; Northern Yellow-throat; Northern Maryland Yellow-throat; Black-masked Ground Warbler; Ground Warbler.

General Description.—Length, 4¾ inches. Upper parts, olive-green; under parts, yellow and buffy. Bill, decidedly shorter than head, tapering gradually to the tip; wings, short and much rounded; tail, about the same length as wing and much rounded.

Nest and Eggs.—Nest: Placed close to ground but raised clear by a platform of dried grass and leaves, and usually in damp locations and carefully hidden beneath a tussock or patch of briers; large and bulky for size of bird; composed of coarse grass, leaves, rootlets lined with finer grass, and a few hairs. Eggs: 3 to 5, commonly 4, shiny white, specked and blotched with chestnut, purplish-black, brown, and a few spots of lilac.

Distribution.—Eastern North America; breeds from North Dakota, northern Minnesota, northern Ontario, and southern Labrador south to central Texas, northern

parts of the Gulf States, and Virginia; winters from North Carolina and Louisiana to Florida, the Bahamas, Cuba, Jamaica, Guatemala, and Costa Rica. In other parts of North America replaced by other varieties of this species.

One of the best-known and easiest-discovered of our Warblers is the Maryland Yellow-throat. Search for it in brier tangles or among low bushes and clusters of tall grass and reeds, especially near streams or ponds. You may hear its sharp notes of "pit, quit!" before you see it. Be patient, for it will soon come in sight. Out of a bush it will suddenly appear, its black mask contrasting strongly with its bright yellow throat. One peep it will make and then vanish, only to reappear in a short time, as if its curiosity about you impelled it again to come from its hiding. Seldom does one see the bird many feet from the ground.

The Maryland Yellow-throat feeds chiefly on insects or insect larvæ. These morsels of food it collects from the twigs and leaves of the bushes, or among the carpet of dead leaves on the ground. The male has a fair gift for singing, and about the nest its song may often be heard, especially during the first half of the day. Living on and near the ground, as the Yellow-throat does, it very naturally has many enemies; for instance, black snakes have been known to steal the baby birds from their cradles, and many of the old and young alike are eaten by pet cats.

Yellow-Breasted Chat

Icteria virens virens (*Linnæus*)

A. O. U. Number 683

Other Names.—Chat; Common Chat; Yellow Chat; Yellow Mockingbird; Polyglot Chat.

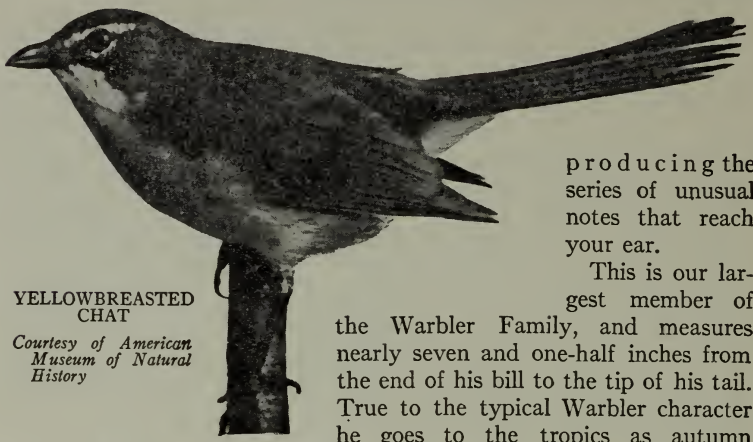
General Description.—Length, 7½ inches. Upper parts, olive-green; under parts yellow and white. Bill, much shorter than head, stout, and arched; wing, moderate in length, rounded; tail, as long or longer than wing, rounded, the feathers narrow, with rounded tips.

Nest and Eggs.—Nest: Built in midst of tangled thickets or briers from 3 to 5 feet up; constructed of dead leaves, strips of bark, dried grass, and weed stalks and lined with fine grasses. Eggs: 3 to 5, usually 4, pure white, tinged with pink when fresh, generally fairly evenly spotted with clearly outlined specks of chestnut and lavender, sometimes coalescing into a wreath around larger end.

Distribution.—Eastern North America; breeds from southern Minnesota, Wisconsin, Michigan, Ontario, Central New York, and southern New England south to southeastern Texas, southern parts of Gulf States, and northern Florida; winters from Pueblo, Vera Cruz, and Yucatan to Costa Rica; casual in Maine. Replaced in western United States by the Long-tailed Chat.

The Chat is the clown of the bird-world. He has a way of rising several yards in the air, and then tumbling down again in a most odd and amusing manner. Also, he indulges in a wide variety of curious calls, whistles,

and clucks. When approaching a cluster of bushes in which a Chat is performing, you may wonder whether there are not half a dozen birds



YELLOWBREASTED CHAT

Courtesy of American Museum of Natural History

producing the series of unusual notes that reach your ear.

This is our largest member of the Warbler Family, and measures nearly seven and one-half inches from the end of his bill to the tip of his tail. True to the typical Warbler character he goes to the tropics as autumn arrives. When the summer birds come trooping northward in spring, we may soon look for the Chat. Do not seek for him in thick woods or the open fields, for he is not there. He haunts the thickets that grow up in old abandoned fields, or in the bushes growing along streams flowing through meadow-lands. Cut-over woods with brush piles and clusters of new grown tree-sprouts attract him. In such places you will find the nest. It is hidden in a bush near the ground, and may contain three or four white spotted eggs.

Dipper

Cinclus mexicanus unicolor *Bonaparte*

A. O. U. Number 701

Other Names.—Water Ouzel: American Water Ouzel; American Dipper.

General Description.—Length, 8 inches. Slate-color.

Nest and Eggs.—Nest: In a crevice of rocks or among roots of trees, always placed near running water, often where spray keeps the outside damp, and sometimes behind a cascade; a beautiful sphere of soft green moss about seven inches in diameter, sometimes dome-shaped, deeper than wide, with a small round entrance and strongly arched and braced with leaves, grass, and twigs, cemented with mud. Eggs: 3 to 5, plain, pure white.

Distribution.—Mountains of western North America, from Rocky Mountains (including Black Hills of South Dakota) to the Pacific coast, and from the Mexican boundary (western Texas to southern California), and northern Lower California to northern Alaska. (Resident throughout, even in Alaskan localities.)

In general color and size a Water Ousel suggests a Catbird with a short tail, although in no way is it closely related to this well-known songster. In America it is an inhabitant of the dashing streams of our western mountains. Here its entire life is spent, being a non-migratory species. Few birds so love the water, as the reciting of some of its characteristics will indicate. It feeds on water insects and small mollusks that it secures by wading, not only in the shallows but along the bottom of the stream-bed with the water rushing over its submerged body and head. In going into deep water the bird usually walks out from the shore, and as seen from above appears to progress with as much ease as when wading along the margin. At times, however, it flies directly in from above. The bird's body is closely covered with a thick covering of down beneath the feathers, which probably protects its skin from coming in actual contact with the water of the glacial streams. The nest is a ball of moss about as large as a man's head, the entrance hole being only large enough to admit of the bird's passage. Of the four nests the writer has found in Montana and Wyoming, all were constantly wet with sprays from waterfalls, and in one case the bird had to pass beneath the falls to reach its young. In flight the Water Ousel follows the windings of the stream it haunts, and so far as I am aware never cuts off any bends by flying across the land.

Mockingbird

Mimus polyglottos polyglottos (*Linnæus*)

A. O. U. Number 703

Other Names.—Mock Bird; Mocking Thrush; Mimic Thrush; Mocker.

General Description.—Length, 10 inches. Upper parts, brownish-gray; under parts, white and gray. Bill, shorter than head; wings, long and rounded; tail, longer than wing, rounded, the feathers moderately broad with rounded tips.

Nest and Eggs.—Nest: Composed of twigs, grasses, and weeds, lined with fine rootlets, moss, and sometimes cotton; in many different locations, but usually in a deep bramble thicket, or hedge; as a rule they are located within ten feet of the ground, never on it, and have been seen built fifty feet above the earth. Eggs: 4 to 6, bluish-green, heavily freckled with several shades of brown.

Distribution.—Eastern United States; northward, regularly (but locally), to Maryland, southern Ohio, southern half of Indiana and Illinois, Missouri, etc., irregularly to Massachusetts, southeastern New York (Long Island, etc.), New Jersey, Pennsylvania, northern Indiana and Illinois, and Iowa, sporadically to Maine, Ontario, southern Wisconsin (breeding), and southern Minnesota; breeding and resident throughout its range, except where occurring accidentally; southward to southern Florida and along the Gulf to eastern Texas, and to the Bahamas; introduced into Bermuda (1893). Replaced in southwestern United States and Mexico by the Western Mockingbird.

Of all the songbirds in North America the Mockingbird is the most wonderful musician. Perhaps in his tones there is not such rich sweetness as is produced by the Hermit Thrush or the Winter Wren, but this

is more than made up by the volume and marvelous variety of his singing. In addition to the Mockingbird's natural song he possesses the unusual power of imitating the notes of many other birds that he hears about him. The cry of the Catbird, the "killy-killy" shouting of the little Sparrow Hawk, the song of the Wren, the Bluebird, and the Robin are all given with a faithfulness of detail that must mislead many a bird, as they have often misled me.

The nest of the Mockingbird is built of sticks, twigs, rootlets and similar materials. The stalks and leaves of "rabbit-tobacco," a plant found commonly in the South, is much employed for this purpose. The nest is placed in trees, bushes, and vines of almost any character that offers protection from the view of the passer-by. If for any cause an occupied nest is destroyed, a new one will at once be made. On different occasions Mockingbirds have been known, when repeatedly disturbed, to build entirely new nests as many as four or five times in a single summer.

Catbird

Dumetella carolinensis (*Linnæus*)

A. O. U. Number 704

Other Names.—Chicken Bird; Cat Flycatcher; Slate-colored Mockingbird; Black-capped Thrush.

General Description.—Length, 8¾ inches. Plumage, slate-gray with black on crown, wings, and tail. Bill, much shorter than head, nearly straight to near tip, where gradually curved downward; wings, moderately long and rounded; tail, slightly longer than wing, decidedly rounded, the feathers narrowly rounded terminally.

Nest and Eggs.—Nest: Rather bulky, made of dry leaves, twigs, roots, and grasses, lined with rootlets and grass; placed in bushes, trees, or thickets usually within 10 feet of the ground. Eggs: 4 to 6, rarely latter number, plain, deep bluish-green, much darker colored than the Robin's.

Distribution.—Temperate North America in general, but wanting in most of region south of the Columbia River and west of Rocky Mountains; north to Nova Scotia, southern Maine, New Hampshire, Ontario, Manitoba, Saskatchewan, and British Columbia; west to and including Rocky Mountains, in Montana, Idaho, Wyoming, Colorado, New Mexico, and Utah, and in Oregon and Washington to the Pacific coast (accidentally to Farallon Islands, California); breeding southward to northern Florida and along Gulf coast to east-central Texas; wintering from Southern States (occasionally Middle States) southward to Bahamas, West Indies, and through eastern Mexico and Central America to Panama; resident in Bermuda; accidental in Europe.

This slaty-gray member of the Thrasher Family is one of the dozen most gifted feathered songsters of the eastern United States. Not everyone knows its song, however, for it has a habit of singing deep in its tangled retreat. It is a cautious, retiring bird, and only when it recognizes kind intentions on your part will it venture to make its abode in

your shrubbery. Then, indeed, you may have it perch on the veranda railing, or awaken you at sunrise with its song. When alarmed, the bird has a cry much like the mewing of a cat, which has given it the name of Catbird.

Catbirds are partial to gardens and orchards, where they accomplish much good by eating vast numbers of harmful insects. In return for this service they are pretty sure to take a small share of the raspberries or strawberries as they ripen in your garden. Sometimes fruit-raisers, seeing the birds eat their fruit and failing to note the fact that they have helped to raise it, become much annoyed and loudly complain that the Catbird is a nuisance.

CATBIRD

Courtesy of American Museum of Natural History

When the nest, with its green eggs hidden in a brier patch or thick bush, is approached, both parents appear and show by their cries and actions the utmost alarm. On all occasions they are very devoted to their young.

Brown Thrasher

Toxostoma rufum (*Linnæus*)

A. O. U. Number 705

Other Names.—Thrasher; Brown Thrush; Red Thrush; Fox-colored Thrush; Sandy Mocker; Sandy Mockingbird; French Mockingbird; Brown Mocker; Brown Mockingbird; Ground Thrush; Mavis; Red Mavis; Song Thrush; Cane-bird.

General Description.—Length, 11 inches. Upper parts, brown; under parts, buffy streaked with dark. Bill about length of head, curved downward at the end; wings, rather short and rounded; tail, decidedly longer than wings and rounded.

Nest and Eggs.—Nest: In clusters of thorny vines, within a few feet of the ground, sometimes on it, occasionally in trees, seldom in open situations, out-of-the-way, quiet localities being preferred; a rather flat, loosely constructed structure exteriorly composed of twigs, rootlets, leaves, hair, together with some feathers. Eggs: 3 to 5, varying from pale greenish-white to pale buff, profusely speckled with minute spots of reddish-brown evenly over entire surface, more rarely forming a wreath around larger end.

Distribution.—Eastern United States and southeastern Canada; northward to southern Maine, Vermont, New York, northern Ontario, Manitoba, and Saskatchewan; breeding southward to northern Florida, Alabama, Mississippi, and eastern Texas, westward to base of Rocky Mountains in Montana, Wyoming, and Colorado; wintering

from North Carolina, southeastern Missouri, etc. (more rarely farther northward), to southern Florida and south-central Texas; accidental in Arizona and Europe.

THIS is the bird often called the "Brown Thrush," and a very pretty poem about it "singing up in the tree" is known to many children. Although it does fly up into or usually *on to* a tree to sing, it passes most of the time on or near the ground. It dwells in the shrubbery of yards and gardens; and in regions where the birds are plentiful you are pretty sure to find one if you commence to examine the little thickets of brush or briers that grow up in old fields or disused pastures. The bird, as a rule, does not like the deep woods, although it is often seen along the border of the forest where there is plenty of sunlight.

The eggs generally are four in number, and the nest of sticks, twigs, and rootlets is placed in such places as thick vines, bushes, briers, or bush-piles, and in most cases is only a few feet from the ground.

Few birds surpass the Brown Thrasher in its power of song. Its notes are many, its voice is loud, and the singing is often prolonged throughout most of the morning. It belongs to a famous family of singers, which includes the Catbird and that world-renowned songster, the Mocking-bird.

HOUSE WREN

TROGLODYTES AËDON AËDON (*Vieillot*)

A. O. U. Number 721

OTHER NAMES.—Brown Wren; Common Wren; Wood Wren; Stump Wren; Short-tailed House Wren; Jenny Wren.

GENERAL DESCRIPTION.—Length, 5 inches. Upper parts, brown; under parts, white and grayish-brown. Bill, shorter than head, straight or but very slightly curved downward, tapering gradually; wings, moderate in length, rounded; tail, about length of wing, much rounded, the feathers narrow with rounded tips.

NEST AND EGGS.—Nest: Usually in boxes erected by man for their convenience, under house cornices and eaves, in fact almost anywhere, from the pocket of a scarecrow to an old tin can on the ground; constructed of small twigs, grass, feathers, spiders' webs, and lined with soft strips of bark, down, or feathers. Eggs: From 6 to 8, dull white, so profusely spotted with reddish or pinkish brown as to obscure the ground color.

DISTRIBUTION.—Eastern United States and Canada; breeds north to New Brunswick, Maine, Ontario, Michigan, and eastern Wisconsin, and south to Virginia and Kentucky; winters in the South Atlantic and Gulf States, and through eastern Texas to eastern Mexico. Replaced in western North America by the Western House Wren.

THIS Wren has been rightly named, for it is very fond of being in the immediate vicinity of a house or other building, and in the spring is rarely found elsewhere. It loves the shrubbery of the yard and the shelter of vines, bushes, or other vegetation of the garden. Its nest will be built in a bird-box if it can find one, or in an old gourd hung up some place, or in the crevice of a building or tree. It is made of twigs, feathers,

grass, weed-stalks, or almost any other soft material that may easily be secured. The amount of these things used by the birds depends entirely upon the size of the cavity selected for the nest, for they have a way of filling the hole until there is left just room enough for the eggs and for the parents to go in and out. In the Southern States, where these birds retire to pass the winter, you may see them about buildings or in the deep woods or even swamp-lands.

The House Wren's song is astonishing both in its loudness and quantity. The fast bubbling music seems to possess his whole being, and the little fellow trembles visibly as perched on some limb or stake he sings with a power and sweetness that attract universal attention.

Winter Wren

Nannus hiemalis hiemalis (*Vieillot*)

A. O. U. Number 722

Other Names.—Wood Wren; Mouse Wren; Spruce Wren; Short-tailed Wren.

General Description.—Length, 4 inches. Upper parts, reddish brown; under parts, pale wood-brown, speckled with dusky. Bill, shorter than head, very slender, and awl-shaped; wings, short and rounded; tail, $^2/_3$ length of wing, much rounded, the feathers narrow with rounded tips.

Nest and Eggs.—Nest: In cavity of stump, or among roots of upturned tree; constructed of small twigs, plant stems, moss, and lichens woven together and warmly lined with moss, fur, hair, and feathers, with a small circular opening. Eggs: 5 to 7 or 8, creamy-white, minutely dotted with reddish-brown and lavender.

Distribution.—Eastern United States and Canada; north to Nova Scotia, Prince Edward Island, New Brunswick, Quebec, Ontario, and Manitoba; breeding southward to Massachusetts, New York, Michigan, and Wisconsin, more rarely to northern Indiana and Illinois and central Iowa, and through mountain districts of Pennsylvania, Maryland, Virginia, and West Virginia to western North Carolina; wintering from near southern breeding limit to northern Florida and thence along the Gulf coast as far as Texas.

Look for the Winter Wren in the brier tangle at the back of the garden, or on one of the lower rails of an old fence skirting a country road. In the wood, any old stump, brush pile, or fallen tree may serve as its hiding place. Flitting close to the ground from one cover to another it may even be mistaken for a mouse. Its brown coat, secretive movements, and the quickness with which it dodges out of sight, all tend to suggest this little furry rodent.

One way in which it may be told from the House Wren, which it much resembles, is by its darker plumage.

Aside from a little scolding chatter we do not hear much from the Winter Wren during the cold months. In spring, however, it is one of the most wonderful songsters of the land. Its song is long, varied, and is of wonderful sweetness. Mounting to the top, or near the top, of a tree in the evergreen forests where the birds spend their summer, the little

male will pour forth a perfect torrent of exquisitely beautiful notes. At this season, Winter Wrens are found in the northern tier of States and Canada. Others inhabit the mountain tops as far south as North Carolina.

Long-Billed Marsh Wren

Telmatodytes palustris palustris (*Wilson*)

A. O. U. Number 725

Other Names.—Marsh Wren; Reed Wren; Cat-tail Wren; Salt-water Marsh Wren.

General Description.—Length, 5 inches. Upper parts, brown and black with white streaks; under parts, white and pale brown. Bill, shorter than head, slender, gently curved for most of its length; wings, moderate in length and much rounded; tail nearly as long as wing, much rounded, the feathers not tapering and with broadly rounded tips.

Nest and Eggs.—Nest: A remarkable cocoanut-shaped structure of interwoven reeds, strongly fastened to upright sedges or cat-tails, lined with fine grass and cat-tail down, with side entrance and nearly waterproof. Eggs: 5 to 9, chocolate, generally sprinkled with deeper colored specks and spots.

LONG-BILLED MARSH WREN BRINGING FOOD TO YOUNG

Distribution.—Eastern United States, chiefly east of the Allegheny Mountains; north to Massachusetts and New York; west to western New York and Pennsylvania; breeds southward to the Potomac valley and Atlantic coast of Maryland and Virginia; in winter southward to North and South Carolina, occasionally to western Florida, occasionally wintering in northern portions of its range. In other parts of United States and Canada five other sub-species of the Long-billed Marsh Wren are to be found.

The Long-billed Marsh Wren is pre-eminently a bird of the salt marshes. Here it lives throughout the summer, and its presence adds greatly to the life of wide reaches of more or less desolate territory. It is a wonderful singing bird, and as it lives where extremely few other birds ever sing, it must be depended on to furnish most of the marsh-land music. Its explosive bubbling song cannot be heard very far, except on still days, yet the bird has a way of singing while up in the air, and this makes it more noticeable than if it kept hidden in the grassy retreats. While perched on some

slender stalk the song begins, and the volume of it seems to lift the bird in the air. Up, up, it rises, four, six, ten feet until the song runs its course and the bird drops out of sight. To look over a marsh of many acres some quiet June day and see these birds rising and falling in all directions, while countless little songs float to one's ears, is an experience not soon forgotten.

The nest for the heavily brown-spotted eggs is woven among the blades of the marsh grass from one to three feet above high tide. It looks like a ball of dried grass with the entrance hole in the side. Many nests are built, but only one is used. Perhaps the others serve to mislead some enemy, or it may be the male makes all these extra ones simply from an excessive love of nest-building.

BROWN CREEPER
FROM A DRAWING BY R. BRUCE HORSFALL

BROWN CREEPER

CERTHIA FAMILIARIS AMERICANA *Bonaparte*

A. O. U. Number 726

OTHER NAMES.—Common Creeper; American Creeper; American Brown Creeper; Tree Creeper; Little Brown Creeper.

GENERAL DESCRIPTION.—Length, 5¾ inches. Upper parts, brown with streaks of grayish-white; under parts, dull white. Bill, slender, sharp, and curved downward; wings, moderate in length, rounded; tail, about length of wing, graduated; the feathers, with rigid and sharp tips.

NEST AND EGGS.—Nest: A collection of twigs, cottony fibers, bark strips, and feathers, placed behind a loosened section of bark, nearly always in a balsam fir tree. Eggs: 5 to 8, white or creamy, freckled with cinnamon and lavender specks, often wreathed around large end.

DISTRIBUTION.—Eastern North America; north to Ontario, Manitoba, etc. (probably to southern Labrador and southwestern shores of Hudson Bay), west to eastern portion of the Great Plains; breeding southward to Massachusetts, New York, northern Indiana, southeastern South Dakota, and southeastern

Missouri and along higher Alleghenies to mountains of North Carolina (above 4,000 feet); wintering over a large part of its breeding range and south to northern Florida and central Texas.

WITH infinite patience the Brown Creeper works his way up and around the side of a tree. Into every crack and cranny he peeps for insects or their eggs. In appearance he is brown mixed with a little white. His tail is long and slightly curved. He does not look like any other bird you know, and his movements are also of a kind that are all his own. After reaching a point on the tree well up among the limbs he suddenly flies to the bottom of another tree and begins his upward climb all over again.

In the far northern woods, where the Brown Creeper retires in spring to seek his mate, we are told that he sings a very sweet and tender song, but in winter, or during the migration periods when most of us see him, he seems to possess no note, but a little squeak that could not, with any degree of truthfulness, be called a song.

The Brown Creeper has a place for building its nest all its own, too. Rarely does any other bird risk using such a situation. Behind the loose bark of a decaying tree that is already in process of falling apart the cradle is made and the spotted eggs are laid.

WHITE-BREASTED NUTHATCH

SITTA CAROLINENSIS CAROLINENSIS *Latham*

A. O. U. Number 727

OTHER NAMES.—White-bellied Nuthatch; Carolina Nuthatch; Common Nuthatch; Sapsucker (incorrect); Tree-Mouse; Devil Downhead.

GENERAL DESCRIPTION.—Length, 6 inches. Upper parts, bluish-gray and black; under parts, white.

NEST AND EGGS.—Nest: Usually in a dead stump or tree from 2 to 60 feet up, sometimes in a deserted Woodpecker hole; loosely constructed of soft felted rabbits' fur, leaves, feathers, and hair. Eggs: 5 to 8, white or pinkish-white, spotted with chestnut and a few lavender specks.

DISTRIBUTION.—Eastern North America; north to New Brunswick and northern Ontario; west to eastern edge of Great Plains; south to Georgia and Gulf States (except coast belt). Replaced in other parts of North America by related varieties.

IN CERTAIN ways the Nuthatch reminds one of both the Chickadee and Woodpecker. Like the former, he often hangs head downward, and like the latter, clings and hops along the trunks of trees. His usual note is "yauk, yauk!" uttered in a peculiar way somewhat as though the bird was talking through its nose. It lives in large part on insect eggs, or the larvæ of insects it finds hidden in the crevices of the bark. In winter it will come near the house, and perhaps learning from the Chickadee's actions just where you have placed the suet for the birds, will quickly claim his share. At this season he wanders about the woods and orchards with his friends, the Downy Woodpecker and Chickadee.

ROBIN (3/8 nat. size)

BLUEBIRD (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

CHICKADEE (3/5 nat. size)

GOLDEN-CROWNED KINGLET (1/2 nat. size)

FROM DRAWINGS BY R. I. BRASHER

WHITE-BREASTED NUTHATCH (1/2 nat. size)

TUFTED TITMOUSE (1/2 nat. size)

FROM DRAWINGS BY R. BRUCE HORSFALL

WINTER WREN (1/2 nat. size)

LONG-BILLED MARSH WREN (1/2 nat. size)

FROM DRAWINGS BY R. BRUCE HORSFALL

In spring the White-breasted Nuthatch selects a mate, and together they seek a place for their nest. No longer do they travel about with their winter friends. These are now forgotten, for many interesting and important duties must receive attention. After much hunting a place to hide the nest is chosen. It is always built in a hole of some tree or stump, or possibly a bird box. Sometimes the place selected is forty or fifty feet from the ground, and again it may be a cavity not over a foot above the grass. The nest is made of leaves and grass. Feathers are often added, if the little searchers are so fortunate as to find them.

Tufted Titmouse

Bæolophus bicolor (*Linnæus*)

A. O. U. Number 731

Other Names.—Tufted Tit; Tufted Chickadee; Crested Titmouse; Peto Bird; Crested Tomtit.

General Description.—Length, 6 inches. Upper parts, slate-gray; under parts, white and reddish. Bill, short and stout; wings, long and rounded; tail, shorter than wing, slightly rounded; head, with crest.

Nest and Eggs.—Nest: Usually in deserted Woodpecker holes or hollow stumps; a collection of moss, leaves, bark strips, and horse and cattle hair. Eggs: From 5 to 8, white, thickly spotted with reddish-brown.

Distribution.—Eastern United States; north, regularly, to southern Pennsylvania and New Jersey, central Ohio, northern Indiana, northern Illinois, southern Iowa, and northeastern Nebraska; irregularly or casually to Connecticut, southern New York (Long Island, Staten Island), extreme northern portions of Indiana and Illinois, and southern Minnesota; west to eastern portion of the Great Plains; south to the Gulf coast, including south-central Florida and eastern and central Texas.

"Pe-toe, pe-toe, pe-toe!" the Titmouse sings over and over at intervals the livelong day. Usually the notes come ringing through the woodland with great clearness, and one knows that the bird is filled with energy and good spirits. Again the calls seem sad and lack brightness, as though the singer was very weary, and was only calling because he was forced to sing a certain number of times each day. Of course, the bird has some other notes, but these are not heard so often.

In the southern woods where the Tufted Titmouse lives it is found often in winter with Chickadees, Nuthatches, and a Downy Woodpecker or two. These birds form into little troops and feed together throughout the day, each giving its own call from time to time, and the whole making a very happy and contented feathered band.

Probably they do not sleep together, although all of them usually roost in old Woodpecker holes or natural cavities of trees. Such a place is also chosen by the Titmouse for making its nest when spring comes.

You may know this little southerner by its song, its gray coat, and its feathered crest that it raises and lowers at will.

Chickadee

Penthestes atricapillus atricapillus (*Linnæus*)

A. O. U. Number 735

Other Names.—Common Chickadee; Eastern Chickadee; Black-capped Chickadee; Black-capped Titmouse; Black-capped Tit.

General Description.—Length, 5¼ inches. Upper parts, gray with a black cap; under parts, white with a black throat. No crest; bill, shorter than head; wings, long and rounded; tail, shorter than wing, slightly rounded.

Nest and Eggs.—Nest: In deserted Woodpecker holes, natural cavities, old stumps (preferably white birch), or fence posts; such openings are filled with leaves, moss, grasses snugly lined with hair, fur from small animals, and feathers. Eggs: 4 to 8, white, spotted with chestnut and lilac-gray.

Distribution.—Eastern North America; north to Newfoundland, Quebec, Ontario, and southern Keewatin; south, regularly, to about latitude 40°, in New Jersey, Pennsylvania, Ohio, northern Indiana, northern Illinois, Iowa, etc., in Allegheny Mountains to North Carolina (in spruce belt); irregularly (in winter) to northern Virginia, Kentucky, southern Illinois, Missouri, etc. Other species and sub-species found in other parts of North America.

As a rule, we see the Chickadee most often during the cold months of the year. In summer, when all the bird-world is filling the air with song and flashes of plumage, he may be overlooked. When frost has stripped the trees of the leaves, and sent most of the feathered songsters scurrying for sunny climes, the Chickadee is more readily seen and heard. "Chick-a-de-de-de!" he sings. If you do not know him, look for a little gray bird about five and a quarter inches in length. He is whitish beneath and wears a black cap. Among the small twigs of the limbs he is hopping, and flitting, and clinging, as he searches for insect eggs. Again he will descend to the low bushes, and will come so near that you could almost reach him with your hand. In fact, Chickadees have been known to light on the hands of many people who were careful not to frighten them.

If suet is tied to limbs or posts in the yard, the Chickadee is pretty sure to be one of the birds to discover it. Day after day, and several times each day, he will come to enjoy the feast you have spread for him Winter would lose much of its charm if the Chickadee did not stay with us.

Golden-Crowned Kinglet

Regulus satrapa satrapa *Lichtenstein*

A. O. U. Number 748

Other Names.—Golden-crested Kinglet; Golden-crowned Wren; Flame-crest; Fiery-crowned Wren; Gold-crest.

General Description.—Length, 4½ inches. Upper parts, gray; under parts, olive-whitish.

Nest and Eggs.—Nest: Spherical, about four and a half inches in diameter, composed

exteriorly chiefly of green moss, lined with fine strips of bark and fine rootlets, surmounted by numerous feathers of various wild birds, arranged with points of quills downward and forming a screen that effectually conceals the eggs; semi-pensile or not, being sometimes supported beneath and sometimes fastened by top and sides to the needles of the coniferous tree in which it is usually placed, generally at a height 50 to 60 feet from the ground. Eggs: 5 to 10, varying from creamy-white to buff, sprinkled with numerous spots or blotches of pale brown, chiefly around larger end, and placed in the nest cavity in a double layer, as the space is too small to hold them in one.

DISTRIBUTION.—North America east of Rocky Mountains; north to Labrador, Keewatin, etc.; breeding southward to Massachusetts, central New York, northern Michigan, northern Minnesota (?), etc., and along Allegheny Mountains to western North Carolina (in spruce belt); wintering southward to northern Florida, and westward along Gulf coast to south-central Texas. In western North America replaced by the Western Gold-crowned Kinglet.

THIS bird is well described by its name, for "Kinglet" means little king. It has a crown of golden-colored feathers, and as it is only about one-quarter of an inch longer than the Ruby-throated Hummingbird, it is certainly correct to call it a little king.

Most of us are accustomed to see this exquisite feathered mite between the months of September and May. Look for it climbing and flitting about the ends of evergreen boughs. It may be sixty feet from the earth, but often you will find it on a level with your face. It is very gentle, and not easily frightened away. Sometimes it will come within a few feet of the boy or girl who is watching its movements.

The male has a very sweet song in the spring and summer, and it is so loud that upon hearing it for the first time one might well suppose it issued from the throat of a much larger bird.

In the nesting season the Golden-crowned Kinglet is found in the pine forests of the northern States and Canada, or on the high mountains of the South. Closely related to it, and but one-third of an inch longer, is the Ruby-crowned Kinglet, which has the same general habits of life.

WOOD THRUSH

HYLOCICHLA MUSTELINA (*Gmelin*)

A. O. U. Number 755

OTHER NAMES.—Song Thrush; Wood Robin; Bell Bird; Swamp Robin.

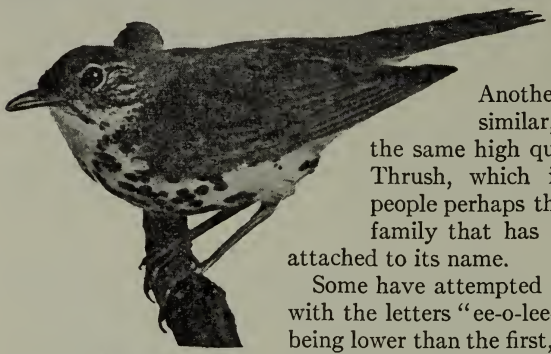
GENERAL DESCRIPTION.—Length, 7¾ inches. Upper parts, brown; under parts, white, spotted. Bill about ½ length of head, slender, curved downward at the tip; wings, long and pointed; tail, not more than ¾ length of wing, even, the feathers slightly sharpened at the extreme tip; legs, long and slender.

NEST AND EGGS.—Nest: Usually in thickets, placed in the crotch or on horizontal limbs of saplings, six to twelve feet from ground; composed externally of leaves, grasses, small twigs, and stems placed when damp and cemented with mud, the whole quite firm and solid when dry; bits of paper or rag are frequently added as a sort of decoration; the lining formed of fine rootlets and grasses. Eggs: 3 or 4, plain greenish-blue.

DISTRIBUTION.—Eastern temperate North America; north to New Hampshire

(White Mountains), New York (breeding at Lake George), northern Ontario, northern Michigan, etc., accidentally to Maine and northeastern New York; west to middle portion of Great Plains (along wooded valleys); breeding southward to northern Florida and thence westward through Gulf States to eastern Texas; in winter southward through eastern Mexico and Central America to Nicaragua and Costa Rica, also to Bahamas, Cuba, Jamaica, and Porto Rico; straggler to the Bermudas.

THRUSHES are famous singers wherever found. In North America, by common consent, the palm is yielded to the Hermit Thrush as being the sweetest and most spirited of all the Thrush musicians. Another whose song is very similar, and has much of the same high qualities, is the Wood Thrush, which is known to more people perhaps than any other of the family that has the word "thrush" attached to its name.



WOOD-THRUSH
Courtesy of American Museum of Natural History

Some have attempted to describe its song with the letters "ee-o-lee-e," the second note being lower than the first, and the third much louder and more prolonged than either of the others. It is heard at all times of day, but mainly in the morning and evening. The Wood Thrush feeds much on the ground, but rises to the high limbs of trees in the woods or groves to fling its beautiful notes to the wind. "Swamp Robin," some people call it. Others know it as the "Wood Robin."

The nest with its three or four greenish-blue eggs may be looked for in a low tree eight or ten feet from the ground. Large leaves and sometimes pieces of paper are placed among the weed stalks and sticks with which it is made, and like a Robin's nest, it is given strength by a mud cup. The Wood Thrushes all leave the United States when autumn comes.

ROBIN

PLANESTICUS MIGRATORIUS MIGRATORIUS (*Linnæus*)

A. O. U. Number 761

OTHER NAMES.—Fieldfare; Common Robin; Robin Redbreast; Redbreast; Migratory Thrush; Canada Robin; Northern Robin; American Robin.

GENERAL DESCRIPTION.—Length, 10 inches. Head, black; upper parts, gray; under parts, reddish and white. Bill, decidedly shorter than head, compressed, terminal $^2/_3$ gradually and increasingly curved downward; wings, rather long and pointed; tail, shorter than wing, even or slightly rounded, the feathers broad.

NEST AND EGGS.—Nest: A thick but symmetrical bowl, made of mud re-enforced with leaves and twigs, in which are frequently woven leaves, twine, paper, and rags. It is lined with soft grass, and may be placed (frequently quite near the ground) in any kind of tree or upon any suitable projection from a house, or within or without barns, sheds, and other outbuildings. Eggs: 4 or 5 (occasionally 6), greenish-blue, unmarked; usually two broods a season and sometimes three.

DISTRIBUTION.—Eastern and northern North America; breeding from the southern Alleghenies (in western North Carolina, etc.), Pennsylvania, New Jersey, the New England States, Ohio, central and northern Indiana and Illinois, Iowa, northward to the limit of tree growth in Ungava (Fort Chimo), and northwestward to the valley of Kowak River in northwestern Alaska; westward nearly to the Rocky Mountains (to the Pacific at Cook Inlet, Alaska); in winter southward to southern Florida and along the Gulf coast to Texas; accidental or occasional in the Bermudas and Cuba; accidental in Europe (as escapes from captivity?). In western North America replaced by the Western Robin, in southeastern United States by the Southern Robin.

THE best-known bird in North America is the Robin, also it is the most beloved. Now and then some man gets angry because a Robin eats his cherries, but the bird is now protected everywhere by strong laws. In the Southern States especially a few are still shot for food, despite the law. Robins do not sing in that part of the country, and as they go about in flocks and become very fat from eating berries of the black gum, palmetto, etc., they present very tempting targets for the hungry hunter. In some places they gather to roost by untold thousands, and these great Robin roosts were, until very recently, famous places for hunters to kill them.

In summer this bird is found over a large part of the continent as far north as Alaska. It is very sociable, and likes to be about the home of man. Often the first bird to arrive from the South in spring is the Robin. Its song, made up of a few cheerful notes, salutes you on the day when there is in the air the first indication of approaching warmth. Soon others arrive, and before long the lawn is plentifully sprinkled with the new red-breasted arrivals. At this season they are very fond of eating angle-worms, and this brings them to the yard and garden in great numbers.

BLUEBIRD

SIALIA SIALIS SIALIS (*Linnæus*)

A. O. U. Number 766

OTHER NAMES.—Eastern Bluebird; Wilson's Bluebird; Blue Robin; Common Bluebird; Blue Redbreast; American Bluebird.

GENERAL DESCRIPTION.—Length, 7 inches. Upper parts, bright blue; under parts, cinnamon-chestnut and white. Bill, small and slender; wings, long and pointed; tail, shorter than wings, distinctly notched; legs, short.

NEST AND EGGS.—Nest: The natural nesting-sites are in deserted Woodpecker holes, hollows of decayed trees, or crevices of rocks; it was one of the first birds to take advantage of "modern conveniences" and quickly appropriated boxes placed around the

farm houses for its occupancy; hollows in old rail-fences are often used, and in some parts of New England a large percentage of nests are so located; more rarely the pair usurp a Swallow's nest; the nest is composed of grass, weed stalks, a few bits of bark, and lined with finer grass-blades. Eggs: 4 to 6, rarely 7 and usually 5, plain light bluish-white in color.

DISTRIBUTION.—United States and southern Canada east of Rocky Mountains; north to Nova Scotia, southern New Brunswick, southern Maine, Vermont, northern New York (Adirondacks), northern Ontario, and Manitoba, occasionally to northern New Brunswick, northern Maine and southern Quebec; west to eastern base of Rocky Mountains, in Montana, Wyoming, and Colorado; breeding southward to southern Florida and along the Gulf coast to southern and west-central Texas; Bermudas (resident); accidental in Cuba.

THE Bluebird is one of our best-known and most beloved birds. Its blue coat and brick-red vest are familiar to every child who lives where wild birds may be seen and studied. One of the earliest birds to appear in spring, it is not until most certain indications of winter are in the air that it again departs for more southern climes.

The Bluebird is distinctly a bird of the open country, and is equally at home on a post by the roadside, or perched on a stake in the garden. In winter, however, one meets with them in flocks as they drift about through the southern pine woods and along the borders of swamps in quest of wild berries that grow so abundantly in those regions.

The cradle for the young Bluebirds is made of grass, and is carefully hidden away in the natural cavity of an old orchard tree, an unused Woodpecker hole, or in a box erected by some kindly friend of the birds. One odd thing about the eggs is that while usually they are bluish-white in color, it is not uncommon to find nests in which all of them are pure white.

A BUCCANEER IN FEATHERS

How that Conscienceless Freebooter of the Woods, the Butcher-Bird, or Shrike, Makes War on his Neighbors

BY JOHN BURROUGHS

ONE day as I sat at my desk I caught a glimpse of swiftly moving wings about the trunk of a large maple that stands in front of my window. A second glance showed me a shrike, or butcher-bird, pursuing some small bird around the tree. Rushing to the door I saw that the pursued was a brown creeper, and that the little bird was taxing its wit and its wings to the utmost to avoid being seized by the shrike. Its obvious tactics were to keep to the trunk of the tree between it and its enemy.

As the creeper spends most of its time on the trunks of trees seeking its minute food, it is entirely at home there. Its protective coloration, as it is called, is supposed to be of great service in concealing it from its enemies, but it seemed to avail it little in the present case.

When the shrike lost sight of it for a moment as it darted around the tree trunk, he began exploring the tree all the way to the top. Then he dropped down to near the bottom, and in so doing started the creeper from its place of hiding. It came quickly on my side of the tree and stopped, clinging to the bark where it was partly shielded and hidden by a rope attached to a hammock. There it crouched motionless and, I fancied, trembling for its life. The shrike has not the talons of the bird of prey, and hence it cannot strike its quarry as the hawk can. Its weapon is its slightly hooked beak. With this it breaks the skulls of its victims and then sups upon their brains. The little creeper acted as if it knew all this, but I suppose all it knew was that a large bird with a murderous instinct was hotly pursuing it.

The shrike in its search now alighted upon the hammock; this act caused the rope to move that partly concealed the creeper, and away it flew, no doubt in a panic of fear. The shrike saw it and gave chase, but before I could get into the open where I could see the issue, both birds had disappeared, nor could I see a feather of either anywhere on the ground or among the trees of the neighborhood. I think the creeper escaped, though I thought his leaving the maple was very bad tactics.

My son and I once witnessed a little bird tragedy which showed how fatal it is for one of our smaller birds to seek to escape from the murderous shrike by open flight. I had just stepped out of my study door and was gazing out upon the white landscape, when my son, who was passing by a woven wire fence, about fifty yards away, with a piece of timber upon his shoulder, called out to me, "See those birds." Two birds, one in hot pursuit of the other, had struck the woven wire fence at his elbow, had struggled through the meshes, and went racing through the vineyard in my direction. I saw them coming down between two rows of grape vines in desperate flight. I saw at a glance that it was a shrike pursuing a junco, or snow bird, and that the assassin was gaining on his victim. As they got opposite me and about forty yards below me, the junco, finding its enemy dangerously near, turned its course sharply to the right, crossing the line of wires supporting the vines.

Then just what happened, or rather just how the deed was done, my eye was not quick enough to see, but the shrike struck his victim down, probably with his beak, and fell with it to the ground. I rushed to the rescue as fast as possible, but before I could reach the spot, the shrike had killed his victim, carried it to the top of a grape vine, tightened his

hold, and was off down the hill toward a line of trees, with its limp form hanging beneath him. There was the imprint in the snow where the birds had fallen, but not a feather or a drop of blood to tell of the tragedy that had been enacted there.

Later in the winter, while trimming the grape vines, I heard a bird scream, and looking in the direction saw that a robin was being hotly pursued by a shrike. The robin was darting in and about a spruce tree, screaming his protest and leaving a trail of feathers behind where the shrike struck him. Presently, still shouting his protests, he left the shelter of the spruces and disappeared over the hill, closely pursued by the shrike. What the final issue was no one knows. I had not supposed that the shrike ever attacked so large a bird as the robin. He certainly could not carry away a bird of more than his own weight, though he might kill it by a blow upon its head, as he probably did in this case.

The wild life about us is full of tragedies, both winter and summer. Many of the records upon the snow tell a story of only fear or pain.

BIRD–NESTING TIME

By JOHN BURROUGHS

THE other day I sat for an hour watching a pair of wood thrushes engaged in building their nest near "Slabsides." I say a pair, though the female really did all the work. The male hung around and was evidently an interested spectator of the proceeding. The mother bird was very busy bringing and placing the material, consisting mainly of dry maple leaves which the winter had made thin and soft, and which were strewn over the ground all about. How pretty she looked running over the ground, now in shade, now in sunshine, searching for the leaves that were just to her fancy! Sometimes she would seize two or more, and with a quick, soft flight bear them to the fork of the little maple sapling. Every five or six minutes during her absence, the male would come and inspect her work. He would look it over, arrange a leaf or two with his beak, and then go his way. Twice he sat down in the nest and worked his feet and pressed it with his breast, as if shaping it. When the female found him there on her return, he quickly got out of her way.

But he brought no material, he did no needful thing, he was a bird of leisure. The female did all the drudgery, and with what an air of grace and ease she did it! So soft of wing, so trim of form, so pretty of pose, and so gentle in every movement! It was evidently no drudgery to her; the material was handy, and the task one of love. All the behavior

of the wood thrush affects one like music; it is melody to the eye as its song is to the ear; it is visible harmony. This bird cannot do an ungraceful thing. It has the bearing of a bird of fine breeding. Its cousin, the robin, is much more masculine and plebeian, harsher in voice, and ruder in manners. The wood thrush is urban, and suggests sylvan halls and courtly companions. Softness, gentleness, composure, characterize every movement.

In only a few instances among our birds does the male assist in nest-building. He is usually only a gratuitous superintendent of the work. The male oriole visits the half-finished structure of his mate, looks it over, tugs at the strings now and then as if to try them, and, I suppose, has his own opinion about the work, but I have never seen him actually lend a hand, and bring a string or a hair. If I belonged to our sentimental school of nature writers I might say that he is too proud, that it is against the traditions of his race and family; but probably the truth is that he doesn't know how; that the nest-building instinct is less active in him than in his mate; that he is not impelled by the same necessity. It is easy to be seen how important it is that the nesting instinct should be strong in the female, whether it is or not in the male. The male may be cut off and yet the nest be built and the family reared. Among the rodents, I fancy the nest is always built by the female.

Whatever the explanation, the mother bird is really the head of the family; she is the most active in nest building, and in most cases in the care of the young; and among birds of prey, as among insects, the female is the larger and the more powerful.

The wood thrush whose nest-building I have just described, laid only one egg, and an abnormal looking egg at that—very long and both ends of the same size. But to my surprise out of the abnormal looking egg came in due time a normal looking chick which grew to birdhood without any mishaps. The late, cold season and the consequent scarcity of food was undoubtedly the cause of so small a family.

Another pair of wood thrushes built a nest on the low branch of a maple by the roadside where I had it under daily observation. This nest presently held three eggs, two of which hatched in due time, and for a few days the young seemed to prosper. Then one morning I noticed the mother bird sitting in a silent, meditative way on the edge of the nest. As she made no move during the minute or two while I watched her, I drew near to see what was the matter. I found one of the young birds in a state of utter collapse; it was cold and all but lifeless. The next morning I found the bird again sitting motionless on the rim of the nest and gazing into it. I found one of the birds dead and the other nearly so. What had brought about the disaster I could not tell; no cause was

apparent. I at first suspected vermin, but could detect none. The silent, baffled look of the mother bird I shall not soon forget. There was no demonstration of grief or alarm; only a brooding, puzzled look.

I once witnessed similar behavior on the part of a pair of bluebirds that were rearing a brood in a box on a grape post near my study. One day I chanced to observe one of the parent birds at the entrance of the nest gazing long and intently in. In the course of the day I saw this act several times, and in no case did the bird enter the box with food as it had been doing. Then I investigated and found the nearly fledged birds all dead. On removing them I found the nest infested with many dark, tough-skinned, very active worms or grubs nearly an inch long, that had apparently sucked the blood out of the bodies of the fledglings. These were probably the larvæ of some species of beetle unknown to me. The parent birds had looked on and seen their young destroyed and made no effort to free the nest of their enemy. Or probably they had not suspected what was going on, or did not understand it if they beheld it. Their instincts were not on the alert for an enemy so subtle, and one springing up in the nest itself. Any visible danger from without alarmed them instantly, but here was a new foe that doubtless they had never before had to cope with.

The oriole in her nest-building seems more fickle than most other birds. I have known orioles several times to begin a nest and then leave it and go elsewhere. Last year one started a nest in an oak near my study then after a few days of hesitating labor left it and selected the traditional site of her race, the pendent branch of an elm by the roadside. This time she behaved like a wise bird and came back for some of the material of the abandoned nest. She had attached a single piece of twine to the oak branch, and this she could not leave behind; twine was too useful and too hard to get. So I saw her tugging at this string till she loosened it, then flew toward the elm with it trailing in the air behind her. I could but smile at her thrift. The second nest she completed and occupied, and doubtless found her pendent-nest instinct fully satisfied by the high swaying elm branch.

One of our prettiest nest builders is the junco, or snowbird; in fact, it builds the prettiest nest to be found upon the ground, I think—more massive and finely molded and finished than that of the song sparrow. And it is more woodsy and has the rarer beauty of sylvan things. I find it only in the Catskills, or on their borders, often in a mossy bank by the roadside, in the woods, or on their threshold. With what delicate and consummate art it is insinuated into the wild scene, like some shy thing that grew there, visible, yet hidden by its perfect fitness and harmony with its surroundings. The mother bird darts out but a few yards

from you as you drive or walk along, but your eye is baffled for some moments before you have her secret. Such a keen-feather-edged, not to say spiteful little body, with the emphasis of those two white quills in her tail given to every movement, and yet, a less crabbed, less hasty nest, softer and more suggestive of shy sylvan ways, than is hers, would be hard to find.

One day I was walking along the grassy borders of a beech and maple wood with a friend when, as we came to a little low mound of moss and grass, scarcely a foot high, I said, "This is just the spot for a junco's nest," and as I stooped down to examine it, out flew the bird. I had divined better than I knew. What a pretty secret that little foot-stool of moss and grass-covered earth held! How exquisite the nest, how exquisite the place, how fit and sylvan the whole scene! How could these eggs long escape the prowling foxes, skunks, 'coons, the sharp-eyed crows, the searching mice and squirrels? They did not escape; in a day or two they were gone.

Another junco's nest beside a Catskill trout stream sticks in my memory. It was in an open grassy place amid the trees and bushes near the highway. There were ladies in our trouting party, and I called them to come and see the treasure I had found.

"Where is it?" one of them said, as she stopped and looked around a few paces from me.

"It is within six feet of you," I replied. She looked about incredulous, as it seemed an unlikely place for a nest of any sort, so open was it, and so easily swept by the first glance.

As she stepped along, perplexed, I said, "Now it is within one yard of you." She thought I was joking; but stooping down, determined not to be baffled, she espied it sheltered by a thin, mossy stone that stood up seven or eight inches above the turf and tilted about at the angle of one side of a house roof. Under this the nest was tucked, sheltered from the sun and rain, and hidden from all but the sharpest eye.

NATURE LOVER'S CREED

I believe in nature, and in God's out-of-doors.

I believe in pure air, fresh water and abundant sunlight.

I believe in the mountains, and as I lift up mine eyes to behold them, I receive help and strength.

I believe that below their snowy crowns their mantles should be ever green.

I believe in the forests where the sick may be healed and the weary strengthened; where the aged may renew their youth, and the young gather stores of wisdom which shall abide with them forever.

I believe that the groves were God's first temples, and that here all hearts should be glad, and no evil thoughts come to mar the peace; I believe that all who seek shelter within these aisles should guard the noble heritage from harm, and the fire fiend never be allowed to roam unwatched.

I believe in the highland springs and lakes, and would have noble trees stand guard around them; upon the mountain sides I would spread a thick carpet of leaves and moss through which the water might find its way into the valleys and onward to the ocean.

I believe in the giant trees which have stood for thousands of years, and pray that no harm shall come nigh to them.

I believe in the axe of the trained woodsman and would have it hew down the mature trees of today that we may secure lumber for our needs, and the trees of smaller growth have more light and air and space.

I believe in the seeds of the trees, and would gather and plant them, and I would care for the seedlings until they are ready to stand with their brothers in the forests and plains; then the wilderness and the dry land shall be glad and the desert shall rejoice.

I believe in protecting the birds and the animals that live amidst the trees, and the ferns and mosses and blossoming plants.

I believe in all the beautiful things of nature, and would preserve, protect and cherish them.

"Come let's to the fields, the meads, and the mountains,
The forests invite us, the streams and the fountains."

—Mrs. P. S. Peterson